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ABSTRACT

This proceedings contains the following papers presented at the 1993 conference of the Arizona State Library Association and Arizona Educational Media Association College and University Libraries Division: (1) "Building a Collection Development Team in an Academic Library" (Bee Gallegos and John Spencer); (2) "Danger, Death and Desire in the Stacks: Or the Application and Results of the WLN Assessment to the Collection at Central Arizona College" (Joddy McEuen and Bonny Bruce); (3) "Designing a Training Program for a Dynamic Online Library System" (Beth L. Brin, Louise Greenfield, and Jennalyn Tellman); (4) "A First Review of 'FirstSearch': Implementation and Evaluation at the University of Arizona Library" (Bonny Bruce and Michele Hanson); (5) "Hot Wiring the Classroom: Library Instruction in an Electronic Environment" (Ruth Dickstein); (6) "Outreach in Arizona: How Grateful Med Paved the Way for the Arizona Health Information Network" (Patricia A Auflick and Mary L. Riordan); and (7) "Through the Curriculum Looking Glass: A Different View of Electronic Resources" (Christopher McConnell). Most of the papers contain references. (MES)

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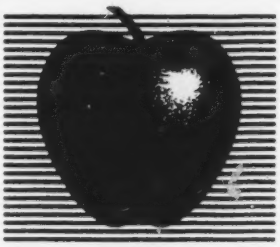

LITERACY
EMPOWERMENT
OPPORTUNITY

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BUILDING A COLLECTION DEVELOPMENT TEAM IN AN ACADEMIC LIBRARY

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Arizona State University, a relatively new and rapidly growing institution, has been building a library collection which reflects the evolving academic programs on campus. At the same time, collection development efforts by librarians have been evolving from an individual effort to a more cooperative and collective decision-making process. In order to facilitate that process, a team, building project was initiated within the collection development group. A planning team was instrumental in guiding the team building process as well as providing recommendations and evaluations of the process as it developed. The process involved group exercises, activities, and discussions as well as the utilization of meeting management techniques.

INTRODUCTION

Team building is a concept which has grown in popularity within the academy, after its incorporation into the business world. With an emphasis on committee involvement, and with plenty of opportunities for faculty and librarians to serve on committees, why is the concept of teamwork coming to the forefront? After attending meetings on a regular basis as we all do, the prospect of teamwork is sometimes hard to imagine. In his book Thriving on Chaos, Tom Peters started the ball rolling, stating that "the power of the team is so great that it is often wise to violate common sense and force a team structure on almost anything." In order to benefit from the input and experience of more than one person, a team is invaluable. The collective mind is better than one

mind alone and the combination of talents from a team is more productive than a group of people who are simply working as a committee.

THE CHALLENGE

With some of this thinking in mind, a team effort was initiated at Arizona State University West by the Head of Collection Development and Bibliographic Services in November 1992, after a staff development workshop on group dynamics and team building. Arizona State University West is a relatively new and rapidly growing institution which has been building a library collection to reflect the evolving academic programs on campus.

The collection development process involves librarians who meet on a regular basis to make decisions and discuss collection development issues. While the meetings were effective in some ways, a number of librarians were new to the organization and needed clarification of their role in the process.

Librarians who had been with the institution for some time relied on corporate memory as their guide. A current written collection development policy was not in place, nor were there any shared common understandings, expectations, or goals within the new collection development group. In addition, some librarians saw collection development as an individual effort, although the interdisciplinary nature of programs on campus requires that librarians work closely together to determine appropriate resources.

In order to begin the team building project, a core group of three individuals were brought together as a planning team. The planning team was charged with studying the issue of teams within the context of the collection development group and with making recommendations for putting a team building program together for our colleagues.

REVIEW OF THE LITERATURE

To begin the process, our planning team did a review of the literature and read what was found; then we had lunch meetings to discuss our findings and brainstorm on ways to apply the theoretical findings to our environment. One of the important elements that came across in the literature was that "teams do, in fact, have to be built and the building takes time." (Barwick, 36.) It is also important to recognize that "going from committees to teams is neither easy nor quick, and it certainly never will happen without the right kind of leadership." (Barwick, 36) Certain leadership qualities are important for team building, including seeing team members as equals, being able to listen actively, and being an enthusiastic and supportive leader.

Before beginning the team building process, collection development members were asked to anonymously complete a survey which outlined characteristics of a team and a group. Individuals were instructed to indicate their perception of which characteristics specifically applied to the collection development group (See Appendix A.) This exercise was instrumental in allowing collection development librarians to think about how the group interacted. Some of the questions indicated a group orientation while others indicated a team orientation.

What we discovered from this survey were the following mixed reactions:

- a team effort was underway;
- a group orientation was in place;
- the collection development effort was primarily an individual effort not requiring teamwork.

The survey also indicated that there were some issues which related to distrust, disagreement, and conflict resolution. The survey results confirmed what we felt we knew about the collection development group's perceptions of team. With these findings in hand, the planning team continued to review the literature and formulate ideas to bring back to the group as a whole. (See Appendix B.)

In our reading, we found that there are certain characteristics of effective teams. The following characteristics are essential features of effective groups which function as a team as adapted from Leadership: A Communication Perspective by Michael Hackman and Craig Johnson.

These eight strategies encourage a team climate in the organization:

1. **Identify clear goals which maximize team outcomes.**
   What are the goals for the team? What is the agenda? The team leader is responsible for defining and articulating goals, and motivating.

2. **Develop a results-oriented team structure.**
   Each member must know his/her role and take responsibility for it.

3. **Assemble a competent team, both technically and interpersonally.**
   Technical aspects translate into knowledge of assigned area with the skills and abilities to implement necessary programs. Interpersonal attributes include good communication skills, ability to resolve conflicts, and critical thinking.

4. **Strive for unified commitment through involvement.**
   Team goals must be a high priority for team members.

5. **Provide a collaborative climate.**
   Cooperation and teamwork are essential for success.
   Trust is a key element to ensure an open, honest environment.

6. **Encourage standards of excellence.**
   The team must have high expectations regarding outcomes.
   High expectations mean hard work on the part of all team members.

7. **Furnish external support and recognition.**
   Team members must be rewarded. They need positive reinforcement such as a "pat on the back" for a job well done.

8. **Utilize effective principled leadership.**
   The team leader must establish a vision for the team.
   The leader must create change by seeking new and better ways, and unleashing talent to new levels.

After reviewing the literature, we presented to the collection development group the following features of teams that work. These ideas established the basis for developing a team approach.

Ability to work together: A group of people must learn to work together in order to develop a team attitude of cooperation and effectiveness. There must be a sense of "we." In the word "teamwork," WORK is the essential element. Committees and regular meetings are not teams, as there is a lack of accountability. In the academic world, individualism is an important value. For teams to work, the team has to offer a lot to the members. The analogy of a baseball team was one we used to emphasize that all members of a team must work together in order to have a successful team.

High level of commitment to the team: A sense of commitment is important for teamwork to exist. The sense of commitment comes from the work that is accomplished together, with each individual responsible for their contribution and involvement. This sense of responsibility and accountability for the work is what brings about commitment.

High level of output: As team members work together, there is a shared sense of responsibility which enables higher productivity and output. The real test of teamwork is whether the work is being accomplished and whether productivity is up. A good way to assess the level of output is to keep score—that is, to keep track of the team's progress by using updates, reports, and charts. As

in a baseball game, keeping score is the way you determine how the game is going.

Each member is important: The individual effort is certainly important and will always be recognized. However, as a team building process is underway, the emphasis is on mutual trust and respect which come from achieving common goals. By seeing and valuing the team's work as a shared reality, the importance of each member is enhanced. A key is to make team building an ongoing goal. Again, as a baseball team is one in which team members play different roles, all nine members are important to the success of the team.

THE PROGRAM: HOW TO BUILD A TEAM

After compiling the survey results to determine how collection development members felt about the group of individuals involved in this process and after reviewing what experts had to say about building teams, we asked ourselves: Do we need to be a team?

The planning team in consultation with the team leader felt the answer was a definite "yes." We needed to be a team to:

1) effectively use all our skills and strengths. A team can more effectively manage change in an organization by bringing together a variety of skills which are important to use in addressing any issue.

2) gain a broader perspective, to hear more viewpoints. Allowing people to participate fully enables the growth of the organization. Listening to other viewpoints allows more options for the team and for the organization as a whole.

The next question the planning team had to address was, "How can we build a team?" That is, how can we bring a diverse group of people, some with very strong personalities, together to a point of recognizing that a sense of "we" is more productive and beneficial than "me"or "I."

Several practical suggestions were forthcoming. Our planning team found that some key principles would be easy to implement because of their simplicity. Although we knew the theoretical basis for developing a team, we wanted to use some practical ways to encourage team building.

1) Enjoy time together by allowing people to express their sense of humor.

2) Share food — Having meals together allows people a chance to enjoy each other's company and to build a sense of identity.

3) Clarify the group's mission and build a group identity. It is important to know what the group's mission is.

4) Work interdependently. One of the most effective ways to build a team is to work on projects in smaller groups. Again, our team building initiative group of three was a model for the rest of the group to see teamwork in action.

The team building planning team decided to use these four principles as the core of our recommendations to the larger group. However, our charge was more than making recommendations on how to implement teamwork. The challenges for our planning team were:

- to determine the mindset of the group regarding team;

- to decide in our own minds if building a collection development team was appropriate;

- to educate our colleagues about how to build a team.

This meant identifying the characteristics of a team, devising ways to implement team building, and good old-fashioned salesmanship to persuade the others of the need.

PLANNING TEAM RECOMMENDATIONS

After initial presentations on team building and discussions with the group, the planning team made a number of recommendations in January 1993 in order to facilitate the process of team building. These recommendations were made to show which steps to take next.

1) Clarify the overall mission and goals of the collection development group. As team members build consensus on team objectives, it becomes clear what the team is about. Since there wasn't a current collection development mission and goals statement , another task force worked on that project. (See Appendix B.)

2) Specify collection development objectives for the fiscal year with specific timelines when appropriate. Objectives identify for the team exactly what needs to be accomplished and within what time frame.

3) Monitor progress towards each objective/project on a regular basis. Use the objectives to build the agenda for future CD meetings. Regular budget reports were identified as one means of monitoring our progress to the goal

of spending the budget in a wise yet timely manner. Projects were identified for the upcoming year and timelines for decisions were decided.

4) Develop meeting management techniques which are in keeping with a team building approach such as using a facilitator, recorder, and timekeeper. This approach was identified as a way to involve everyone in the team. Rotating responsibilities give each individual a role to play so that individuals are not consistently playing the same roles.

5) Address team building on an informal basis with some fun activities. Sharing food and a sense of humor is a good way to build a level of trust and compatibility. In our meetings, we have had cookies, donuts, pretzels and candy. We found that food was a good way of providing a more relaxed atmosphere during meetings. The collection development group hasn't formally gone to lunch together, but it is an idea to be considered.

6) Use staff development seminars with a facilitator/faculty member to address conflict resolution, meeting management, leadership, and similar topics. Videos and discussion guides are also available.

7) Incorporate a leadership style which promotes team building as a participatory process. Involve team members in decision making. Set an appropriate time frame for decisions. We felt our team needed a leadership style that encouraged each member to participate. Another key element is that responsibility should be delegated effectively, giving key assignments to individuals to complete and bring back to the group for evaluation and integration. The planning teams and task force assigned to formulate the team building program and to clarify collection development goals and objectives are good examples of this.

ASSESSMENT OF THE TEAM BUILDING PROCESS

One of the charges given the planning team at the outset by the team leader was to monitor, evaluate, and report our conclusions back to our colleagues on the team building process. Therefore, the planning team met in May 1993 to assess the team building process which had been implemented in January. We were able to identify some areas of real progress while there were other areas where little or no progress had been made to date on the recommendations.

1) Mission and goals

The mission and goals were clarified and articulated by a task force and accepted by the group as a whole.

2) Collection Development Objectives

Objectives were specified and time frames were established for the current fiscal year. New objectives should be established for the upcoming fiscal year with timetables put into place for their implementation.

3) Monitoring Progress

Monitoring the current collection development objectives took place informally. An annual timetable would help establish an ongoing monitoring process. Reports on budget expenditures should be shared on a regular basis, at least monthly. At more crucial times of the fiscal year, reports should be shared at each bi-monthly meeting.

4) Development of meeting management techniques

The use of a facilitator, recorder, and timekeeper helped manage the meetings. Minutes of discussions were an excellent result of the recorder's role. A standardized format for minutes would be useful in clarifying decisions made and actions to be taken. Putting the most important items at the beginning of the minutes, such as decisions made and action needed would be more helpful than the chronological report of our discussions.

As the facilitator creates the agenda, a note indicating what type of item it is would help clarify the reasoning for its inclusion. Use of the categories of information, discussion, and decision would also help the group in the determination of how much time to allocate to each item.

5) Informality and Fun

People have responded favorably to the food and more relaxed atmosphere at meetings. The responsibility for provision of food should be rotated among all members to create more equity.

6) Staff Development

The planning team previewed some videos on key topics such as meeting management, group process, and conflict resolution. These should be explored further. Outside facilitators should be brought in to conduct team building workshops on some of these topics.

7) Leadership

The current team leadership has worked to encourage development of a team approach; however, the style of leadership needed may change as the team develops. Work on the clarification of meeting agendas, timetables, and how to handle decision-making are needed. The collection development process and input from others outside the team should be encouraged, but their roles need to be clarified.

SUMMARY

In assessing the process of team building, we noticed that there were positive and negative outcomes. The planning team within the collection development group was instrumental in guiding the team building process as well as providing recommendations and making an evaluation of the process as it developed. For our group we recognized the following elements as important to consider in the future as the team continues to work together:

1) Goals and objectives are clearly defined.

   While team building is recognized as an ongoing process, the evaluation showed that there were some important elements in place which indicate a team is being built. With a collection development mission and goals statement in place, participants have a clearer sense of what needs to be accomplished. In addition, common goals arrived at through consensus allow the group to shift to a more cohesive team orientation. As team members build consensus on team objectives, it becomes clear what the team is about. Addressing our objectives on an ongoing basis helps keeps the team focused on exactly what we need to accomplish.

2) Leadership style encourages involvement.

   For our team, the leadership style encourages each member to participate. Another key element is that responsibility is delegated effectively, giving key assignments to individuals to complete and bring back to the group for evaluation and integration. Leadership style is shifting to encourage ownership and responsibility by the team members. Each member of the team is encouraged to participate. Key assignments have been given to individuals or task forces to complete and bring back to the group for evaluation and integration. The team building project was initiated by a smaller subset of people, as were the goals and objectives clarification task.

3) The team is accountable for its decisions.

   When a team is accountable for its decisions, commitment to the team is built over time. Essentially, it's the work which makes the team — not the time or place of the meeting. Assignments for future collection development task forces include looking at media policies and procedures, reviewing collection development policies for reference, and reviewing policies and procedures instituted for ready reference titles. Assignments such as those mentioned encourage and enable the team members to be accountable for their decisions and builds greater commitment to the team.

4) Members enjoy being together and working together.

Sharing food and a sense of humor is a good way to build a level of trust and compatibility. A more relaxed atmosphere at meetings and a sense of greater trust and compatibility has occurred by sharing food at meetings. Communication has improved, and team members are participating at a higher level.

Team building is not easy. Team members must be committed to making it work, but also recognize that there may be setbacks or modifications in the ongoing process. Flexibility and openness are key to success with each member being an equal. Regular assessment is also crucial to building a team and making it work.

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APPENDIX A

GROUP VS. TEAM

Think about the group of collection development librarians. Check any description in either column that adequately describes the group.

☐ Members feel grouped together strictly for job purposes.	☐ Members recognize their relationship to the group/organizational goals and their personal goals.
☐ Members tend to focus on themselves and feel like hired help.	☐ Members feel a sense of ownership for their jobs and are committed to goals they have shared making.
☐ Members are told what to do, not asked.	☐ Members contribute to team objectives and each member's unique talents are utilized.
☐ Members distrust their co-workers and their management.	☐ Members work in a climate of trust.
☐ Members sense a me vs. them attitude about organization management.	☐ Members have an "us" attitude about all members of the organization.
☐ Expressing disagreement is seen as being non-supportive.	☐ Opinions, feelings, and disagreements are explored.
☐ Members are careful of how and what they say to avoid misunderstandings. There is a lot of game playing.	☐ Communication is open. Real issues are discussed.
☐ Members are trained in their jobs but limited in how they use the training.	☐ Members are encouraged to learn and use new skills.
☐ Members have few conflict resolution skills. Conflicts have a long history.	☐ Members work to resolve conflict quickly and use positive conflict constructively.
☐ Members may or may not participate in decisions affecting them. Support may or may not exist.	☐ Members participate in most decisions affecting them and support their decisions and decisions made by their leader in emergency situations.

APPENDIX B

COLLECTION DEVELOPMENT

Mission Statement

Anticipate and support the curriculum and research needs of ASU West faculty and students in all stages of learning by developing a collection and facilitating access to external resources.

Goals

1. Select appropriate materials to support the collection development mission.
2. Anticipate the future needs of the collection.
3. Create core collection in selected areas.
4. Maintain currency, quality and balance of collection by encouraging a cooperative team-oriented approach to collection development.
5. Assess the collection as needed.
6. Acquire the tools needed to facilitate access to off-site sources.
7. Keep current with and ensure the utilization of growing capabilities available through electronic information retrieval.
8. Select materials within an appropriate time frame.
9. Spend budget in a cost-effective, timely and consistent manner.
10. Solicit requests from and inform faculty of the arrival of materials appropriate to their curricular and research needs.

DANGER, DEATH, AND DESIRE IN THE STACKS:
Or the Application and Results of the Washington Library Network (WLN) Assessment to the Collection at Central Arizona College.

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This paper discusses the results of a collection assessment project completed at a rural community college library. A combination of the Washington Library Network (WLN) assessment guidelines and the ALA Crew method for evaluating and weeding collections was used for data gathering and statistical analysis. A pie graph generated from the statistical data revealed that nearly 1/2 of the titles retained are dated pre-1971. Less than 10% of the titles retained have copyright dates from 1989 on. The assessment resulted in a working document that will be used for collection development, curriculum support, and as a budgeting tool.

DANGER

To weed or not to weed? It didn't seem like much of a debate at Central Arizona College Learning Resource Center. A small community college in rural Arizona, CAC serves a community of some 3,000 FTSE (Full Time Student Equivalency) and a head count of over 14,000 students at three campuses. The shelves were brimming with books at the main campus. It seemed like an impressive collection for a library this size, until you took a closer look.

Old books, torn books, musty and worn books. The stacks were overcrowded, books were on their sides and out of place. Chances for easy access through browsing or retrieval by call number were perilously slim. Titles in science, technology and, medicine were outdated and offered dangerously inaccurate information. An infestation of a hard-shelled beetle posed a very real threat to the entire holdings of the library.

Library staff often hesitate to embark on a rigorous weeding adventure. The collection at CAC had not been weeded since the library opened its doors over twenty years ago. The dangers of discarding a book that someone may ask for the next day, throwing out rare books, and destroying public property have all been voiced as objections by reluctant weeders (Segal, 19). In addition, librarians form emotional attachments to books and may measure the quality of a library by the number of volumes; factors that often discourages weeding (Slote, 4).

Advocates of evaluating library collections insist that weeding is necessary to provide good service. At college libraries weeding is vital to ensure that the collection offers reliable information and supports the curriculum. The American Library Association Standards for College Libraries state that "library collections should be continually evaluated and no title should be retained for which a clear purpose is not evident (ALA/ACRL Standards, 192). According to weeding guru Stanley Slote "a library serving the public needs to have a collection that is up-to-date and changing" (5).

The ALA "Continuous Review, Evaluation and Weeding" or CREW method of collection assessment, lauds the benefits of CREWing, or systematic weeding. Weeding frees up space, resulting in a more attractive and functional library environment. Continuous evaluation provides data on the physical condition of the collection and serves as an assessment tool of strengths and weaknesses that can be used in acquisition of materials. Weeding often increases circulation and improves the credibility of library collections (Segal, 4).

The necessity for the Collection Assessment at the Central Arizona College LRC was demonstrated by several factors:

1. Students were having trouble locating specific books on shelves.

2. Material listed in our physical inventory had not really existed for several years.

3. Bibliographies produced to support the curriculum were creating exercises in futility for faculty and students due to missing titles.

4. The library joined a county-wide effort to produce a computerized Union catalog and our record reliability had to be strengthened.

In addition to these factors, we needed data to measure the support available for academic programs; for example, were assignments being given by instructors realistic in relation to the collection? Information was also needed to direct us in future budget requests. We faced the challenge of a large area crammed with aging, decaying books in which current or relevant material appeared in only one out of three volumes.

Thanks to a colleague, Connie Hey of Yuma County, we became familiar with the ALA publication, Evaluating Libraries and Weeding Collections in Small and Medium-Sized Public Libraries, as well as the already noted CREW method. Through the Collection Development Roundtable of the Arizona State Library Association and the Library Extension Division of the Arizona Department of Library, Archives and Public Records, we received training in using a new collection evaluation tool--the Pacific Northwest Collection Assessment Manual. This tool has now been purchased by and is available through the Washington Library Network (WLN). A bi-monthly newsletter, WLN Participant, is also available and reports on use, tools, and new developments related to collection assessment, such as the WLN/RLG Conspectus software.

Due to our collection size, minimal staff, resources available, and desired outcomes we crafted a mix of the CREW and WLN tools for use in gathering data and analyzing statistics.

The goal of our assessment team was to complete the project during the summer months. A time frame of four months, May-August, was established, with staff devoting from six to eight hours a day on the evaluation process. Staff members were divided into assessment teams of two with the same people usually working together on a daily basis. One person examined books, and one kept statistics. However, flexibility was necessary due to individual work schedules and job responsibilities, and everyone involved in the assessment worked interchangeably.

There were advantages to choosing summer for such a large project. Central Arizona College only offered classes during the month of June in 1993. Enrollment was low, resulting in low library usage. While the doors were open during July and August, there were no students on campus and library staff were relieved of circulation and bibliographic instruction duties. Assessment teams were able to devote a block of time each day to working in the stacks which developed consistency and increased speed. Finishing within a four month time frame also reduced apathy and boredom that can occur when a project carries on too long.

The short time frame resulted in negative aspects as well. Working long hours at the same task was tiring and stressful and may have had an effect on the accuracy of the evaluation process. Student help was at a minimum and we relied heavily on two student workers to move books. Though the work was hard, hot, and dirty, a team spirit prevailed. We were committed to a shared vision and tackled each call number section with energy and enthusiasm.

DEATH

The loss of a book is like the loss of an old friend, and weeding according to suggested criteria inevitably leads to the death of favorite titles. Standard criteria for weeding library collections such as physical condition, qualitative, and quantitative worth were used in the evaluation process at CAC (Evans, 299). Each title was handled, inspected, and evaluated for currency, quality of content, circulation frequency, condition, authority of author or publisher, and relationship to the curriculum.

As we worked our way through the stacks, it was evident that the collection was built rather indiscriminately, and included large numbers of obsolete titles as well as irrelevant items that had been received as gifts. Yellow, brittle paperbacks were in abundance. Dated material such as The Art of Modern Hairstyling from 1957 and Shrag's Handy Guide to Nuremburg with hotel ads and travel tips circa 1910 provided comic relief, while sexist titles like Applied Mathematics for Girls and Always Ask a Man: Arlene Dahl's Key to Femininity were prime candidates for weeding. Ron Hayden remarks that one outcome of his weeding project at Huntington Beach Library was the realization that books sent to a commercial bindery did not circulate and were not worth binding costs (82). We came to the same conclusion at CAC. Hundreds of rebound titles in our collection met their deaths due to a poor circulation record.

Our method for record keeping was modeled from a combination of CREWing procedures and sample conspectus sheets in the Pacific Northwest Collection Assessment Manual. Each title retained was given a check mark on a conspectus sheet divided by call number area and copyright year. Titles to be replaced and subject areas that needed additional acquisitions were noted. Each title was checked against the shelflist for accuracy, and a price was written on the title page of the book and on the shelflist card. We also took advantage of the opportunity to pull salvageable books that needed repairs or label changes. The book pocket, circulation card, and shelflist were removed for discarded titles. Shelflist cards were later filed alphabetically and used to remove records from the automated cataloging system.

Data from the conspectus sheets was then entered into a Quattro Pro spread sheet application in order to calculate total number of books retained for each call number area, and the percentage in each call number by copyright date. (See Figure 1.) Analysis of the statistical data revealed that nearly half of our remaining collection, or 47.4% are pre-1971 imprints. Less than 10% are titles with copyright dates from 1989 on. (See Figure 2.)

Areas in which currency of information is vital are sadly lacking. Less than 5% of the technology titles have been published in the last five years. Only 8% of political science and 9% of general science titles have publication dates from 1990 on. The statistics generated were used to assess strengths and

weaknesses of the circulating collection, and to draw comparisons of supporting reference materials, serials, and videos in each call number area.

Evaluating the collection challenged our physical stamina and played havoc with our health. Congratulating ourselves for choosing summer to break our assessment fever (few patrons to notice how we looked!), we got into our grubbies, sat on the floor, stood on stools, and squinted and sneezed our way through the collection. Poor lighting and small print caused headaches and eye strain; allergies flourished in an atmosphere of mold and dust. We dreamed of whirlpools and massage to ease our aching muscles.

Thankfully we had strong and sturdy student employees who removed the books from the shelves and aisles each day. Books were separated into three categories: stored for resale at the campus bookstore, sent to our two other campuses for curriculum support, or discarded due to physical condition and insect infestation.

The collection assessment impacted the library in several ways. Due to the death and departure of thousands of titles, technical services workload increased dramatically. There were withdrawn shelflist cards to alphabetize, records to be deleted from LEPAC (Pinal County Public Access Catalog), and repairs and label changes to be made. Public services dealt with patron frustration at not finding titles, which led to an increase in interlibrary loan requests.

DESIRE

Our desires for the LRC at Central Arizona College could become closer to reality through collection assessment. We hoped for an increase in the materials budget to meet our goal of improving the quality, credibility, and appearance of our collection. We desired a concrete grasp of what the collection contains and shared an aspiration to provide excellent service to patrons.

The project has had multiple outcomes and has brought us within reach of desired goals. Statistics were generated that are now being used to develop a specific collection development plan. Strengths and weaknesses of the collection in relation to the curriculum have been clarified and make a strong argument on which to base budget requests. We now have a working document of the existing collection that allows staff to provide improved Reference and Interlibrary Loan services. In addition, it provides data for comparison to ACRL standards and for use to manipulate and analyze for our institutional review process.

Anyone who has lived through assessment has increased their value to the institution by their knowledge of the collection. Each staff member who participated now has a better mental image of the collection's holdings, deficiencies, and how and where it needs to be developed. By joining this

enhanced collection knowledge with an institution's teaching/learning goals, a more cost-effective pattern can be developed for acquisitions. In Pinal County it is leading to a Cooperative Collection Development Policy for the college and the county's public libraries.

CONCLUSION

There is actually physical danger involved in a project of this depth and magnitude and the death of information in book form can be emotionally painful to a bibliophile. To live through this, books must be judged objectively only by the information they contain without regard for them as an art form or historic artifact. The process of measuring, weighing and judging creates a clear vision of what your collection is, and a driving desire to move the collection where it needs to go.

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FIGURE 1

Q SCIENCE

Call Number		Number of books on shelf by copyright date									Number of Books on shelf
		Pre - 1971	1971 - 79	1980 - 85	1986 - 8	1989	1990	1991	1992	1993	
Q	0 - 125	29	1	4	3	1			20		58
	126 - END	39	8	9	7	2	4	1	7		77
QA	0 - 93	70	18	68	23	6	33	6	3	2	229
	94 - END	77	12	19	8		1	2		1	120
QB		62	44	36	14	3	4	2	2		167
QC		113	26	21	10	8	12	4	6	1	201
QD		62	8	13	1		1		1		86
QE		77	49	10	3	3	1	1		1	145
QH	0 - 99	39	19	9	8		4	6		2	87
	100 - 199	15	12	5	5		1		2		40
	200 - 299	1	2								3
	300 - 399	46	18	3	3		2		1		73
	400 - 499	7	10	3	1		1				22
	500 - END	9	15	7	5		5	1	1		43
QK		98	29	9	5	4	3	1	1	1	151
QL		116	131	23	19	7	9	2	8		315
QM		2	3	2			1	1			9
QP		19	19	13	10	1	3				65
QR		5	2	3				1			11

TOTAL NUMBER OF BOOKS FOR Q **1902**

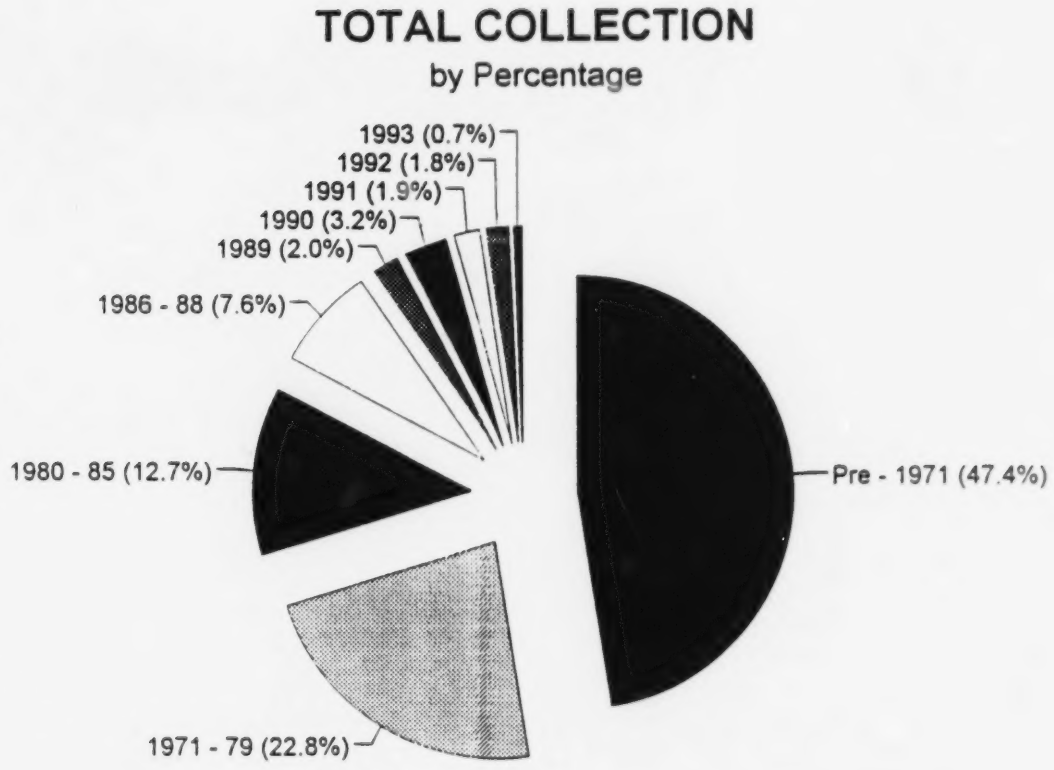
Total number of books by copyright date

886 426 257 125 35 85 28 52 8

Percentage of total books by copyright date

46.6% 22.4% 13.5% 6.6% 1.8% 4.5% 1.5% 2.7% 0.4%

FIGURE 2


TOTAL COLLECTION
by Percentage
1993 (0.7%)
1992 (1.8%)
1991 (1.9%)
1990 (3.2%)
1989 (2.0%)
1986 - 88 (7.6%)
1980 - 85 (12.7%)
Pre - 1971 (47.4%)
1971 - 79 (22.8%)

DESIGNING A TRAINING PROGRAM FOR A DYNAMIC ONLINE LIBRARY SYSTEM

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A team at the University of Arizona Library developed a training program to enable all library staff to effectively use our new integrated system, SABIO. SABIO was a "work in progress," meaning that it was growing and changing while we were making it available to the public. Training in this environment needed to be creative and innovative. One example of "necessity being the mother of invention" led us to do training by telneting to the University of Nebraska, so that our own staff could become familiar with a system similar to ours, prior to the implementation. This paper will address training goals and formats, basic assumptions, criteria for trainers, the development of modular scripts, the design of the program, and the continuing use of the script in other venues.

The nature of the online systems is to grow and change. To respond to training in an evolving, electronic environment, we designed a program which employed creativity and flexibility, and a program which encouraged our staff to approach the system with confidence and a spirit of adventure.

This paper will be useful to those planning training programs of their own, and to smaller libraries throughout the state who will be accessing SABIO through increased electronic access.

What do you do when you are one of the largest research libraries in the country, have a collection of over seven million items, serve over 35,000 undergraduate and graduate students, have a strong history and commitment to providing service to users, and must present your online catalog to your users at literally the same moment you introduce it to your staff? This challenge faced the library training team as the University of Arizona Library introduced SABIO, its integrated library system in the fall of 1992.

The main library contains materials in the social sciences, humanities, and fine arts, and provides services to a media, map, and government documents collection. The Science-Engineering Library, located a block from the Main Library, has over 500,000 volumes and over 1.5 million microforms to support the applied and pure sciences. Branches and special collections include a music library, the Center for Creative Photography, special collections, the Southwest Folklore Center, and an oriental studies collection.

The Library had chosen the Innovative Interfaces, Inc. (III) as its online system and planned to implement it in the fall of 1992. The campus community had been supportive of earlier library automation efforts, and was a receptive and eager audience. Preparation for the training program began in May of 1992 because the decision was made to present SABIO (Spanish for wise or learned one) as a "work in progress."

When SABIO was unveiled in December of 1992, it was indeed "under construction." Tapes were being loaded, circulation records were unavailable, authority work would be mounted nine months later, and only one of the five planned commercial databases had been loaded. What at first glance seemed an unmanageable training circumstance turned out to be an advantage. Our training had to take into account this dynamic, changing situation and show staff what was available at the moment they were being trained and also indicate features that would be coming.

In May of 1992, the Staff Development Committee formed a subcommittee to explore options for staff training for the implementation of the Library Information System (SABIO). This subcommittee was charged by the library administration with developing a comprehensive plan for introducing the Online Public Access Catalog (OPAC) to all two hundred and eighteen staff members. A systematic training program was necessary to assure that every staff member had a foundation in the skills necessary to be able to answer questions about the system, train student assistants, assist users, and provide them with an understanding of the concepts which underlie the system. Designing an instructional session and materials without a database, and preparing staff in advance of patron use, presented a major challenge. Trainers faced the additional challenge of staff with varied levels of familiarity, competence and confidence in working with online systems.

The subcommittee examined articles and programs developed at other University libraries and developed guidelines based on the information gathered. The article "Staff Training and Automated Systems: 20 Tips for Success," (Epple, 1992) was of particular help in developing plans. We systematically explored the 20 points discussed. Much of our plan was based on the questions, ideas, and issues posed by this thorough examination of developing a training program. Goals for the training program, administrative responsibilities, criteria for selecting trainers, assessment of training needs, and general guidelines for the format of training programs were all developed by this subcommittee. We included a list of criteria to help select individuals who would be successful in this role as trainer. Skills and abilities included enthusiasm, patience, ability to communicate and explain technical terms and concepts, training experience, interest, and the ability to participate in the development of training materials. The subcommittee decided on a "Training for Trainers" model. A core group of librarians and staff would attend the III training and then be responsible for developing a training program to meet staff needs. An outline for a Training for Trainers workshop that would emphasize training skills and concepts of adult education was developed also. A survey was designed and sent to every staff member requesting information on their training needs, training preferences and learning style.

SABIO would become available to the public and staff at the same time. In order for staff to feel comfortable and confident in interpreting this new system to users, all staff needed to be trained in advance of public availability. We needed to determine what database to use during training. Options included using the test database that had been created to test the indexing, using the III Online Public Access Catalog (OPAC) in the Science-Engineering Library which had been a working prototype, or using another library's III online integrated system.

The first two options did not have some of the features that staff needed to learn. Using another library's III integrated library system would allow us to demonstrate a system which had all the features that we needed to incorporate in the training. There was some concern about the demand we would place on the chosen system, and the systems availability during our series of training sessions. Therefore, we chose three sites which limited the number of simultaneous uses during any of the training sessions—not an undue burden to any one of the systems. We used the University of Nebraska at Lincoln as the primary system for our demonstrations and the other two systems provided backup. (See Appendix A.) This gave some flexibility while using other systems over which the University of Arizona had no control. In an electronic demonstration, this strategy of providing contingency plans is essential.

There was a large amount of material to present for twelve—twenty-four people in a two-hour session. We used a combination of lecture/demonstration and hands-on interactive methods by presenting a lecture/demonstration for

twenty—thirty minutes, and then giving the class ten—fifteen minutes of practice and "play." Trainers were able to present the material we wanted to cover, and people were able to immediately test the material and their understanding during the practice sessions. It also provided individuals the opportunity to telnet to other systems, which many staff had not done before; it was the introduction for many to the online system that would be the primary library tool in the coming years. In order to provide help during the practice sessions, there were three trainers at each session. One was the designated presenter, one was the typist during the demonstration portion, and one was a monitor, to help answer questions. All three would then roam the room during the practice time to answer questions. For hands-on classes, it is very helpful to have at least two people to help with questions of logging on, and searching techniques.

Because there were a number of trainers and a large number of sessions, we wanted to present as consistent a training session as possible. The training team decided to prepare a script which would be used for each session. We took a systematic approach to the staff training program. Formalized modules were prepared to ensure that all staff were trained to use the most important features of the OPAC. This also ensured consistency of approach from trainer to trainer. We would be able to create additional scripts as additional databases were added. We wanted each staff member to understand the structure of the system so that they could apply the principles that they had learned to new situations and to whatever searching needs they might have. Each staff member was given a copy of the script. This included the material that was being demonstrated plus additional material such as the section on the concept of indexing and selected INNOPAC library telnet addresses.

Our script was a collaborative effort. Ten librarians and staff identified key elements to be included in the training session. The group then discussed the importance of each item listed. We grouped like skills, concepts and ideas into modules such as subject searching, keyword searching, and the concept of indexing. The team members divided into smaller groups to develop each module into full scripts. These were then refined and synthesized by the authors of this article.

To provide a context for the SABIO training, our script began with the concept of indexing. We felt that if people understood the structure of the records, they could become more effective searchers. To achieve this, we created a module that reproduced a record for a specific book in three formats: the traditional card format, the III OPAC public mode, and the III OPAC technical mode that included marc tags. (See Appendix B.) We believed that this would help people make the mental transition from the traditional old card catalog to the new online record. Fear of technology is not uncommon in adult learners and we hoped to make a comfortable transition.

In addition to the concept of indexing, we identified a number of principles around which we constructed the training. These included the importance of developing basic SABIO search skills, building comfort in an electronic environment, communicating the reality of an evolving system, and teaching user self-sufficiency. We chose examples likely to be found in many databases. Our examples taught specific skills, concepts and features while at the same time building on what had been demonstrated previously. We emphasized that we were working with an evolving system and, although many were building expertise, no one was an expert because there were constantly new things for everyone to learn. Rather than moving toward complete mastery of the full system, we wanted people to approach SABIO with a continuing sense of discovery.

The following will illustrate some of the specific elements in the training sessions including subject searching, author and title searching, and keyword searching.

We began the session with the traditional access points of subject, author, and title. (See Appendix C.) This was done in order to present more familiar concepts first. Subject searching began with an example of a term that was not a Library of Congress Subject Heading to demonstrate how the authority records would lead a user to the correct heading. We retrieved a complete record and used it to demonstrate the screen display. A second subject search allowed us to demonstrate scrolling forward to choose a specific record, and to show MORE of the bibliographic record, as well as how to toggle between technical and public modes. (See Appendix D.)

Author and title searching followed. We explained truncation using the stem "cat" as an example which retrieved things as disparate as feline creatures, catalogs, catastrophe, and catatonic, a state which we tried to avoid. (See Appendix E.) Elimination of truncation was also demonstrated. At this time, we explained the system's use of truncation and its usefulness in different searches. An author search under Shakespeare retrieved not only works by the Bard himself, but also various corporate bodies beginning with this name. To make staff aware of how typing and spelling errors affect retrieval, we deliberately misspelled Shakespeare as Shkespeare in order to retrieve nothing. (See Appendix F.) Because the staff members were being trained to interpret the catalog for the public, it was important to illustrate the limitations of the system. Our ideal system would not only spell check, but read minds as well. We can only hope.

Linus Pauling was the example chosen to illustrate the limiting feature. (See Appendix F.) We took this opportunity to describe each limit option such as language, material type or year in publication. We limited by words in the title to find his innovative work on the common cold rather than the larger body of work in chemistry. The limit feature is not obvious on the screen and it was

important to bring it to searcher's attention. This search was then expanded using the feature that allows the searcher to find items with the same subject. Next, we demonstrated how to display items that would be nearby on the shelf according to call number. Through these demonstrations, participants were introduced to search strategies which could both focus and broaden their searches giving them more precise results.

Keyword searching was the next module we demonstrated. (See Appendix G.) Each library implementing the III system decides which fields to index under the keyword option. The University of Arizona Library chose to index title, corporate body (including conferences), series and contents notes. Because this was a new point of access for our staff, we thought it would be helpful to describe situations when keyword searching could be especially useful. An example was searching for a particular book when only a few words of the title were remembered, such as searching for Janson's classic college text "A Basic History of Art" by using the words "history" and "art." Another example was finding the proceedings of a conference. These are notoriously difficult to locate using traditional methods. We used the Modern Languages Association as an example and then limited by word in title "conference" or word in subject "congresses." A third example illustrates how keyword searching can be useful if the user does not know the Library of Congress subject heading. For example, searching with the words "former Soviet Union" leads to records that have LC subject headings that can be used for further searching.

Another unique feature in keyword searching is the method of truncation. It works differently from the way it works with author or title searching. With the keyword option, it is necessary to insert a truncation symbol, * , to activate truncation. We used the example "alcoholi*" to show that it retrieved variant endings to the stem including alcoholics and alcoholism, but not alcohol. We also discussed Boolean logic and its use in the III system. This included using "and", which is implied, and "or" which requires care in constructing parallel statements.

At the end of the session, we discussed the soon-to-be implemented Expanded Academic Index (EAI). (See Appendix H and I.) This database would be available to both staff and the public before our next phase of training could be scheduled. It was important to give staff some preliminary information about searching the database. We emphasized that the search software would be the same as that used for the online catalog, and therefore the search techniques would be the same. It was also important to discuss with the participants the nature of the database, its scope, coverage and type of material included.

Not long after EAI became available on the OPAC, other commercial databases were added. These included PsycINFO, and CARL UnCover. We now moved into the second phase of the staff training program. This phase built on the knowledge, skills and concepts presented in the earlier sessions making it

easy for staff to transfer their previously learned skills. During this phase, we began using SABIO in our training sessions rather than telneting to the University of Nebraska. Because of the common examples that we had chosen, we needed minimal modifications to our script. PsycINFO, like EAI, used the same searching software as the catalog portion of the database. However, it was necessary to point out differences such as the scope and content of the databases, EAI using its own subject headings as well as those of the Library of Congress, and PsycINFO having its own thesaurus. We did identical subject searches in each database, contrasting the results. Our script for CARL UnCover illustrated the use of different search software and further demonstrated the realities of searching an off-site location.

Following the success of the library staff training sessions, we began to use the scripts for student, faculty and community user groups' presentations. Mixing and matching relevant scripts and modules, we introduced SABIO to the University's President's Cabinet, to Tucson Area High School Librarians, to Friends of the Library, and to many student groups. Having a ready made script available allowed us the time to alter the scripts to reflect specific interests. For example, for the President's Cabinet we made changes in topics searched to retrieve books or articles that those administrators had written. We followed the same script model for whoever was being trained, making only changes in topics searched to make the presentation pertinent to them. The scripts were used successfully by librarians throughout the library system as well as representatives from other campus units.

CONCLUSION

Staff training in an online environment makes us all both learners and teachers. As each new database is loaded, as each new command is made available, as each new service is being offered, we are all challenged to develop effective ways of learning and teaching. Identifying the skills your staff already possess and building on those strengths is an effective approach to a successful staff training program. The use of scripts and modular arrangements allows for consistency in training, as well as the flexibility to adapt presentations to the needs and interests of a particular audience. A mechanism which incorporates the opportunity for participants to get hands-on experience during the sessions will assist in the transfer of skills and concepts into immediate application. Finally it is helpful to approach the planning and implementation of a staff training program in much the same way one might encourage their staff to learn—with a spirit of flexibility, adventure and innovation.

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APPENDIX A

TELNET ADDRESSES FOR OTHER LIBRARIES USING III

University of Nebraska

1. TELNET UNLLIB.UNL.EDU or 129.93.16.1
2. At the login: prompt, type LIBRARY
3. Select V for type of terminal.
4. Enter Y to confirm.

To logout: Enter D.

University of Oregon

1. TELNET JANUS.UOREGON.EDU or 128.223.24.86
2. Pres {RETURN} several times.
3. At the login: prompt, enter janus.
4. When asked for teminal type, enter v.
5. Enter y to confirm.

To disconnect: Type x.

University of Maine

1. TELNET URSUS.MAINE.EDU or 130.111.64.1
2. Login as ursus.
3. Enter v for VT100.
4. Enter y to confirm.

To logout, type B.

University of California, San Diego

1. TELNET LIBRARY.UCSD.EDU or 132.239.50.100
2. At the login: prompt, type library.
3. Select v for VT100.
4. Hit ENTER when The Library is highlighted.
5. Hit ENTER on the Library menu screen.

To exit:

1. Type Q on Library menu.
2. Mover cursor to Quit and hit E nter.

APPENDIX B

CONCEPT OF INDEXING

It may help to look at a typical record to understand how searches are made.

A catalog card or a machine record has an author (if the book has an author), a title, a place of publication, publisher, date of publication, information about the pagination, illustrations, and size of book. In addition, most books have subject headings that have been assigned by a cataloger. These come from a list published by the Library of Congress. Some books have additional authors and some books consist of separate parts so that there is a listing of the contents in the record for that book. Some books also may be part of a series and have that series included in the record.

Here we have a sample of a typical record showing it as it appears in the card catalog.

```
TA          Aspects of crystal growth. Edited  by
401               Robert A. Lefever. New York, M.
P655              Dekker, 1971.
v.1               viii, 284 p. illus. 24 cm.
                (Preparation and properties of solid
                state materials, v. 1)
                  Includes bibliographies.
                CONTENTS.-- A review of the preparation
      of single crystals by fused melt
           electrolysis and some general properties,
                by W. Kunnmann.-- The role of mass
           transfer, by W. R. Wilcox.-- Exploratory flux
      crystal growth, by A. B. Chase.

           1. Crystals--Growth. I. Lefever, Robert
           A., 1927- ed. II. Kunnmann, W. III. Wilcox,
      William R. IV.Chase, Armond B. V. Series.
```

APPENDIX C

This is a typical main menu screen display.

I. Discuss access points.

WELCOME TO IRIS
UNIVERSITY OF NEBRASKA - LINCOLN
Innovative Research Information System
You may search for library materials by any of the following:

T > TITLE
A > AUTHOR
K > KEYWORDS IN TITLE AND CONTENTS NOTE
S > SUBJECT

L > LC CALL NUMBER
O > OTHER CALL NUMBER
N > NUMBER

R > RESERVE Lists
I > Library INFORMATION

C > CONNECT to another library
D > Disconnect

Choose one (T,S,K,D,L,O,N,T,I,C,D)
This system contains information about materials in Live Library, the Branch Libraries, and the Law Library. For materials not found in the database, please check the card catalog.

II. Discuss the concepts of an index. Refer to the handout.

APPENDIX D

SUBJECT SEARCHING

When Sabio is fully loaded, next summer, it will have authority records. In many cases these cross references will lead the user from an unused term to a term that is used. The subject terms are ones that are in a list developed by the Library of Congress.

See References

Let's try the subject CHURCH AND SOCIETY. We see that this is not a term used in the library and that CHURCH AND THE WORLD is used instead.

```
SUBJECT : church and society

Church And Society  is not used in this library's catalog;
Church And The World  is used instead.
Do you wish to search for Church And The World  ? (y/n)
```

We select "y" and find a number of entries under this subject.

```
You searched for the SUBJECT: church and the world
4 SUBJECTS found, with 33 entries; SUBJECTS 1-4 are:
     1  Church And The World --> See Related Subjects ..   2 entries
     2  Church And The World .....                         28 entries
     3  Church And The World Case Studies .....
     4  Church And The World Periodicals .....             2 entries

Please type the NUMBER of the item you want to see, or
W > Same search as WORD search          P > PRINT
N > NEW Search                  D > DISPLAY Title and Locations
A > ANOTHER Search by SUBJECT           O > OTHER options
Choose one (1-4,W,N,A,P,D,T,L,O)
```

Screen Display: Multiple items retrieved

Discuss the 3 parts of screen displayed:

1. Original search.
2. Search results and item record or browse.
3. Prompts/commands.

BEST COPY AVAILABLE

APPENDIX E

AUTHOR AND TITLE SEARCHING

Automatic Truncation

All search requests are automatically truncated unless searcher specifies otherwise. Truncation expands to search to include other words with the same word stem.

Select **N** for NEW Search, then **T** to search by words in TITLE.

Type **Cat.** This retrieves 2320 entries. Again, **F** and **B** allow browsing forward and backward through the entries.

Go forward several screens to item 49. Note that truncation is automatic.

```
49    Cat Who Wished To Be A Man.....                    1 entry
50    Cataalogo Bibliografico De La Literatura Picaresca S...  1 entry
```

Jump

Select **O** for OTHER OPTIONS, then **J** for JUMP.

```
F > Jump FORWARD
B > Jump BACKWARD
R > RETURN to previous menu
Choose one (F,B,R)
```

Select **F** to jump forward.

Enter **1000** when asked:

```
Advance how many entries (1-2271) ____
The next screen begins with item 1049.
```

APPENDIX F

AUTHOR AND TITLE SEARCHING

This spelling is not close enough. Now let's try **Shakespeere.**
Notice that we are now close enough to see the author we are seeking.

```
You searched for the AUTHOR: shakespeere
Your AUTHOR not found, Nearby AUTHORS are:

1       Shakespeare Tom
2       Shakespeare William 1564 1616
3       Shakespeare William 1849 1931
4       Shakespearean Festival Players Stratford Ont
 Your entry Shakespeere would be here
5       Shakharsi Vasyl
6       Shakhashiri Basaam Z
7       Shakhmatov A A Aleksei Sleksandrovich 1864 1920
8       Shakhmatov Sleksei Sleksandrovich 1864 1920 – > See
```

Select **A** to search for another AUTHOR.

Type **Pauling.**
5 Authors are found.

```
1       Pauling George 1854 1919 .....                    1 entry
2       Pauling Linus 1901 .....                                    23 entries
3       Pauling Linus C Linus Carl 1901 –> See PAULING, LIN   1 entry
4       Pauling Linus Carl 1901 –> See PAULING, LINUS, 1901   1 entry
5       Pauling Peter .....                               1 entry
```

Select **3.** Notice the authority work.

```
You searched for the AUTHOR: pauling

Pauling Linus C Linus Carl 1901  is not used in this library's catalog:
Pauling, Linus, 1901-  is used instead.
Do you wish to search for Pauling, Linus, 1901-  ? (y/n)
```

Type **Y.**
23 entries are shown.

Limit by Words in Title
LIMIT by word in title: cold.

2 entries are shown.
Select item **2: Vitamin C, The Common Cold, And The Flu.**

APPENDIX G

KEYWORD SEARCHING

Introduction

- what fields are searched with the keyword feature
Title, Corporate body [includes Conferences], Series, Contents notes

- when/why would you want to do a keyword search (more examples to be given in following exercises).

Remembering only part of a title.

Keyword Search: "and" is implied

You remember a book on art history by Janson, but cannot find it by title.
Keyword search **art history**.

Notice that "and" is implied (**art and history**) and not a "with" (i.e. picks up art ... history or history...art - not necessarily adjacent).

```
You searched for the WORD: art history
991 entries found, entries 1-8 are:
        1  The 13th-century church at St-Denis
        2  16 studies,
        3  17th and 18th century art: baroque painting, scul
        4  The 1971 American natural history art show, May 9
        5  19th and 20th century art: painting, sculpture, a
        6  Asthetik. English. Selections
        7  Alands medeltida kyrkor. Studier
        8  Allono. Studier kring ett ostgotskt 1600-talssiot

Please type the NUMBER of the item you want to see, or
F > Go FORWARD          P > PRINT          J > JUMP
N > NEW Search          D > DISPLAY Title and Author
A > ANOTHER Search by TITLE   L > LIMIT this Search
Choose one (1-8,F,N,A,P,D,L,J)
```

```
LOCATIONS
        ARCH
LOVE
        LOVE
LOVE
        LOVE, CYT
        LOVE
ARCH
LOVE
```


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APPENDIX H

SEARCHING OTHER DATABASES

Welcome to
Expanded Academic Index

You may search for materials in the
Expanded Academic Index by

A> ARTICLE AUTHOR
T> ARTICLE TITLE
S> SUBJECT
J> JOURNAL TITLE
W> WORDS in the title

I> INFORMATION about the EAI database
R> RETURN to the Library catalog

Choose one (A,T,S,J,W,I,R)

APPENDIX I

SEARCHING OTHER DATABASES

This is a typical main menu screen display on SABIO. Select O - Other databases and remote libraries.

```
Welcome to SABIO, The University of Arizona
     Library Information System
Subject searching is limited at this time.
You may search for library material by any of the following:

   K > KEYWORD
   S > Library of Congress SUBJECT Headings
   A > AUTHOR
   T > TITLE

   C > CALL Numbers
   D > DOCUMENTS Numbers
   N > Standard NUMBERS

   I > Library INFORMATION
   O > OTHER databases and remote Libraries
   E > EXIT
  Choose one (K,S,A,T,C,D,N,I,O,E)

SABIO's online catalog is a "Work-in-Progress." For assistance
     please consult a Reference Librarian.
```

This gives you a list of options to choose from. Select #3 - Expanded Academic Index.

```
Connect to


   01 > Buckyballs Database
   02 > Psychinfo Database
   03 > Expanded Academic Index
   04 > Arizona State U./Northern Arizona U.
   05 > Pima Community College
   06 > University of California (MELVYL)
   07 > University of Texas, Austin
   08 > New York University
   09 > Columbia University Law School
   10 > University of Pennsylvania Law School
   11 > University of California, San Diego
   12 > CARL UnCover Service
   R > Return to previous screen
   Choose one (01-12,R)


Welcome to Expanded Academic Index


You may search for materials in the Expanded Academic Index by

   A > ARTICLE AUTHOR
   T > ARTICLE TITLE
   S > SUBJECT
   J > JOURNAL TITLE
   W > WORDS in the title

   I > INFORMATION about the EAI database
   R > RETURN to the library catalog

  Choose one (A,T,S,J,W,I,R)
```

Select S. Type eating disorders.

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A FIRST REVIEW OF FIRSTSEARCH:
Implementation and Evaluation at the University of Arizona Library

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This study was undertaken to evaluate the use of FirstSearch, the OCLC online reference service, at the University of Arizona Library. The paper examines features of FirstSearch such as pricing, end-user searching, and document delivery as well as implementation of the service at the University of Arizona. A database was created to compile use statistics. Statistical data was sorted by status of user, department, total number of cards issued, and number of repeat users. These statistics, combined with the results of a user survey, comprise the evaluation of the service. Results of the evaluation indicate that FirstSearch is a popular service that is heavily used by several departments. 79% of survey respondents recommended continuing FirstSearch in the future.

UNDERSTANDING FIRSTSEARCH

FirstSearch is an innovative online reference service produced by OCLC and introduced to selected test sites in 1991. It offers an easy-to-search, menu-driven system that was designed with the end-user in mind. Traditional online reference services such as Dialog and EPIC require extensive training and referral to documentation for command language and search strategies. FirstSearch, on the other hand, simplifies online searching through a common user interface for all databases, user instructions, and online help screens.

OCLC's FirstSearch opens up a world of information by providing remote access to thirty-six databases. Databases include commercial periodical and newspaper indexes in a wide spectrum of subject areas in the social sciences, fine arts and humanities, and science & technology. In response to user requests, OCLC continues to expand the service with the addition of new databases; for

example, all databases produced by the H. W. Wilson Company have now been made available, including Library Literature and MLA. FirstSearch is also noteworthy as the only end-user service to provide access to the OCLC Online Union Catalog (OLUC) through a database called WorldCat. The OLUC previously was only accessible to library staff and others familiar with the specialized protocols of Prism and EPIC. Users can now search the holdings of the OLUC by author, title, subject, keyword, and other fields, while using the FirstSearch interface. A researcher's dream come true, the WorldCat database includes 27 million records in 300 languages from 15,000 libraries around the world. Citations for books, serials, theses, dissertations, audio and video recordings, maps and other materials are now easily accessible to end-users.

Libraries can log on to FirstSearch through the Internet, dial-in access, or an OCLC dedicated line. Users can conveniently search all databases by remote access from home or office computers, or designated public access terminals in the library.

Libraries interested in offering the service have several options. FirstSearch is priced by the search and is sold in blocks of 500 searches. The more searches purchased, the better the price. The price range starts as low as 50 cents per search for 40,000 searches and on up to 90 cents for 500. Institutions may purchase blocks of searches and offer open-ended searching to patrons through the use of a common password, buy cards limiting searches to 10-25 per person, or opt for a combination of both. Libraries can also provide a password to users, then pay only for the searches used. Some libraries sell cards to patrons to recover purchase dollars; in fact "for libraries no longer able to subsidize online searching, FirstSearch is the only end-user service set up to sell searches directly to the patrons" (Benaud and Bordeianu 16). OCLC accommodates libraries even further by allowing a refund on searches paid up front if the institution decides to cancel the service.

Another attractive feature of FirstSearch is the document delivery option. Users can select a document delivery service such as Dynamic Information or UMI Article Clearinghouse while online, compare prices, and place their order online. Articles are sent directly to patrons by mail, fax, or overnight express. OCLC recently added the PRISM ILL link, allowing patrons to view holding institutions and fill out ILL forms online ("Document Ordering Debuts" 1).

Libraries that are OCLC members can elect to activate the PRISM ILL Link by entering the administrative mode via password. Online requests are automatically transferred daily to the ILL review file. Linking the FirstSearch service to OCLC's Interlibrary Loan system saves time and money for libraries by reducing paperwork and online time spent on data entry. While the library is charged to produce a request, no cost is involved to transfer, review, or edit workforms ("FirstSearch Linked to Prism ILL" 1).

In step with the current library trend of access versus ownership, OCLC's introduction of document delivery and the PRISM ILL Link promotes resource sharing and meets the needs of libraries grappling with reduced budgets and escalating serials prices.

FirstSearch has been lauded as innovative, reasonably priced, user-friendly, and a powerful searching tool (Benaud and Bordeianu 16). Despite these attractive aspects, the service has provoked controversy over per-search pricing structure and lack of a Boolean "or" operator. Since using the "or" can result in very large search sets, and since OCLC charges by the search, not the output, this operator would not be cost-effective for OCLC.

There are a few other impediments to fully satisfactory searching. One is that the search history--useful for retracing steps or refining a search--is not displayed or included in print-outs or downloading. The ability to conduct one search across multiple databases would also be an improvement, resulting in more efficient and comprehensive searches. Salisbury and Gupta describe inconsistencies in how a search is entered across the databases; an author search using first initials in BIOSIS, for example, resulted in nine relevant references, whereas WorldCat requires the author's full first name (23). The authors also recommend a more prominent display of the second author field, which is only visible after the full record is requested. Since many users are not familiar with a MARC record, they may not recognize that the author they searched for is actually an added author, and assume that their search was unsuccessful (24).

OCLC seems responsive to user requests, however--for example, they have greatly expanded the hours of availability (it is now open all hours except between two and three in the morning)--so it is hoped they will continue to improve their service.

IMPLEMENTING FIRSTSEARCH AT THE UNIVERSITY OF ARIZONA

The University of Arizona Library initially implemented FirstSearch in October 1991 as a participant in OCLC's "Turn Around--Take a Look Campaign," where sixteen libraries served as test sites, providing weekly reports, user comments, and detailed evaluation forms to OCLC (Snure 27). FirstSearch is now a subsidized service at the library.

In 1991, the library was preparing for the installation of SABIO, the University of Arizona's online information system, and catalog cards were no longer being filed. The Library was looking for innovative ways to improve access to information sources, and since the WorldCat database shows library holding symbols, providing a means of verifying what we own, it was felt this would be a valuable alternative to the outdated card catalog. As soon as the service was in place, it became clear that the other online databases were equally attractive to researchers.

The service was targeted primarily to those in the fine arts and humanities because the Science Library already had a functioning online catalog. Although interested undergraduates were welcome to use FirstSearch, it was primarily for faculty and graduate students. Reference librarians promoted the service with an announcement in the campus computing center newsletter, as well as through flyers sent to faculty, asking them to share the information with their graduate students. Additionally, the faculty at the School of Library Science encouraged their students, who have since been some of the most active users, to use the service. Cards for free searches were distributed to faculty, staff, graduate students, and undergraduates upon request, with no limit on the number of cards per individual.

Interested patrons came to the main reference office to sign up for cards, which included a password and authorization code. Patrons were given an instruction sheet with logon procedures, a description of available social sciences and humanities databases, and a two-page reference card that OCLC supplied and the library photocopies.

FirstSearch training has been offered in the library in a number of ways. When the service first began, several demonstration sessions were given, although this method--using one active terminal and a liquid crystal display screen--did not allow hands-on participation. Since that time, the library has installed an electronic classroom in which librarians conduct bibliographic instruction sessions, incorporating FirstSearch for the graduate classes. Some librarians have demonstrated in their offices on a one-to-one basis, but most users have simply relied on OCLC's reference card and the numerous online help screens.

EVALUATION: FirstSearch Cards - User Profile

When users were given cards they recorded their name, department, status, phone number, and the serial number of the card issued. This information was later used to create a database and compile use statistics on the FirstSearch service from May 1992 to July 1993. These statistics, combined with results from a survey of users, comprise this evaluation of the service.

A database sort by status showed that of the 648 total cards issued, 340 went to faculty. (See Table 1.) Of these professors, five individuals were especially active, with a total of 176 cards among them. Forty-nine cards were issued to classified staff members (eleven in the library alone; other departments showed one, two, or no staff members participating). Graduate students requested a total of 240 cards, of which 107 went to graduate library school students. (One student, doing an independent study comparing various online services, used ten cards.) The next highest number of graduate students were in the History department,

with 36, and Spanish/Portuguese, 15. Staff members in the library used a total of 64 cards, some for instructional purposes.

The database was also sorted by department, revealing that users were from 61 departments in the social sciences, fine arts and humanities (with a handful of individuals from the sciences). The School of Library Science boasted the greatest use with a total of 141 cards, possibly because the service was promoted in these classes, and because FirstSearch offers Library Literature, which is not available on CD-ROM in the library. The English department was a close second, with 118 cards; however, it should be noted that one professor by himself used 106 cards. What makes this even more remarkable is that this professor's area is Old English; a year ago he had no experience with computers, even for word-processing, but he soon became an expert online navigator once he became aware of the possibilities. The substantial numbers of students and faculty in History (49 cards) and Psychology (29) may be due in part from bibliographic instruction sessions that incorporated FirstSearch. The Spanish/Portuguese department also had a sizable representation with 23 cards.

EVALUATION: End-User Survey

Surveys conducted by other libraries reflect a favorable impression of the service by end-users. Benefiel and Smith's study at Texas A & M during the FirstSearch test phase was restricted to 15-20 students in an English bibliography course (17). After training sessions and supervised searches, students were given public access to FirstSearch at terminals in the reference area. The survey measured database selection and item retrieval. MLA Bibliography and WorldCat were the most heavily used databases, and 55% of student respondents retrieved citations on FirstSearch that were not found using print sources (18).

Snure reports on an online survey instrument used at Ohio State University (31). Adding FirstSearch to the Campus Wide Information System (CWIS) expanded access at Ohio State to the entire university community and the convenience of an online survey form resulted in a high response rate. People were asked to respond on ease of use, satisfaction with information found, problems encountered, and to add general comments. People responded enthusiastically to including FirstSearch on the CWIS. Forty-nine percent thought FirstSearch was easy to use and 78% were satisfied with the search results. Some users found the downloading procedure tedious and others complained of confusion due to too much information on the search screens.

The University of Arizona Library conducted a survey to provide additional data for evaluation and user feedback in the form of comments. The survey was sent to 310 individuals who signed up for FirstSearch cards during the period from May 1992 - June 1993. Sent through campus mail during the first week of June, the survey was designed to elicit input on whether or not to continue FirstSearch in the future, as well as to determine the most effective

method of access; individual cards or open password. Respondents were asked to check individual databases used to give the library an idea of what to include on the LAN network and SABIO (University of Arizona's online catalog) in the future. (See sample survey, Appendix A.)

Thirty-one departments on campus responded to the survey, 50% of departments whose members signed up for cards. The highest response was from the Main Library (10 surveys returned), followed by the School of Library Science (8), Psychology Dept. (7), History (7), and Spanish/Portuguese (5). The timing of the survey was less than ideal due to the necessity of gathering evaluative information for contract renewal purposes. Many professors and graduate students were off campus during the month of June and this may account for the largest response coming from the Main Library.

Questions on card usage indicate that many of the searches were not used, an important factor in the library's decision to go with open password access starting in July 1993. As the analysis of database statistics on FirstSearch cards revealed, there were several multiple card users. Thirty-one of the 70 respondents to the survey used more than one card. Of the people who used 1 card, only 3 responded as having used all 25 searches. Question 3 failed in accuracy as some people did not circle the number of searches used.

WorldCat was selected by 32 people as the most popular database, possibly because Library Science graduate students were doing extensive searching for a bibliography class. Arts and Humanities (31) and Humanities Index (30) followed, revealing that Humanities faculty and graduate students responded to the library's efforts of providing them with an online searching tool. Other databases heavily used include ERIC, Social Science Index, MLA Bibliography, PsycFirst, and ArticleFirst.

Overall the feedback was extremely positive. Seventy-nine percent recommended continuing FirstSearch. Forty-one respondents provided comments with the majority praising the service for its remote accessibility and value to their research. FirstSearch proved vital for graduate students with limited resources on campus. Several people remarked that FirstSearch is user-friendly and the remote accessibility eliminates time spent waiting in line for CD-ROMS at the library. One user commented that abstracts make article selection quicker and easier. On the negative side, the lack of technology in some departments on campus (no modems available) made access difficult. Some faculty members recommended stronger promotion of the service and several mentioned the drawback of only 25 searches per card.

CONCLUSION

FirstSearch has proven to be a valuable service to many of our patrons engaged in-depth research. The positive feedback received from the FirstSearch

survey, number of cards issued, and the high percentage of repeat users (76 out of 310, 25%) all indicate that patrons of the University of Arizona Library want FirstSearch to remain available.

As library users become more sophisticated in their searching skills and more aware of services available, they are taking advantage of the opportunity to research from home or office. With its wide selection of databases, uniform search protocol, numerous online help screens, relatively low cost, and potential for document delivery, FirstSearch has many attractive features as an end-user service.

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TABLE 1

Number of cards issued by status

Faculty	Staff	Graduate	Undergrad	Total
340	49	240	19	648

Number of cards issued per department
Top ten departments

Department	Faculty	Staff	Grad	Total
Library Sci	23	11	107	141
English	112		6	118
Main Library	56	11		67
History	13		36	49
Psychology	19		9	28
Women's Studies	21	1	1	23
Spanish/Portuguese	7		15	22
Anthropology	2	3	13	18
Speech/Hearing	16			16
Architecture		10	2	12

APPENDIX A

FIRSTSEARCH USER SURVEY

NAME:_____

DEPARTMENT:_____

STATUS: __Faculty __Staff __Graduate __Undergraduate

The Central Reference Department at the University of Arizona Library is evaluating FirstSearch in order to determine whether or not to continue the service in the future. We have a choice between offering FirstSearch cards to individuals or providing other methods of access. Your input is essential in reaching a decision.

Please answer the following questions:

1. Have you used more than one FirstSearch card? YES NO
   (If YES skip to question 4.)

2. If you have used only one card did you use all 25 searches? YES NO

3. Estimate how many searches were used. 5 10 15 20 25

4. Check all the databases you have searched.

__AGRICOLA	__ConsumersIndx
__Newspaper Abstracts	
__Applied Sci & Tech Index	__ContentsFirst
__PAIS Decade	
__Art Index	__Disclosure Corp.
__Periodical Abstracts	
__ArticleFirst	__ERIC
__PsycFIRST	
__Arts & Humanities	__EventLine
__Reader's Guide Abstracts	
__Biography Index	__FactSearch
__Reader's Guide to Periodical Lit.	
__Biology Digest	__General Science Index
__Social Sciences Index	
__BIOSIS/FS	__GPO
__SocioAbs	
__Business Periodicals Index	__Humanities Index
__Wilson Business Abstracts	
__BusinessOrgs	__MiniGeoRef
__Concise Engineering Index	
__WorldCat (OCLC Database)	__MLA Bibliography

5. Do you recommend the library continue this service? YES NO

COMMENTS:

HOT WIRING THE CLASSROOM: LIBRARY INSTRUCTION IN AN ELECTRONIC ENVIRONMENT

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In the fall of 1992, the University of Arizona opened two Electronic Library Education Classrooms, ELECS. Using instruction techniques that had been successful in a classroom where a librarian demonstrated searching procedures proved to be inappropriate in an environment were students were actively learning. This paper examines how teaching in an electronic environment using a hands-on approach differs from the conventional classroom.

"If you want to teach someone something, don't *tell* them how to do it—*show* them how to do it. When it comes to online instruction, there's a lot of truth in that saying." (Bell 38) I say better yet, let them do it themselves. When it comes to online instruction, this became possible when the University of Arizona Library opened the doors to the Electronic Library Education Center, known affectionately as ELECs.

Thanks to considerable support from the University of Arizona Parents and IBM and Apple, in the fall of 1992, the University of Arizona Library officially inaugurated two electronic classrooms. Each center accommodated twelve networked microcomputers to be used for "hands-on" library instruction. There are twelve IBM PS/2 microcomputers in the Main Library and the same number of Macintosh computers in the Science/Engineering Library. One computer at each site is connected to a 3M LCD projection panel allowing students to view searches as well as perform their own. Each work station has room for two chairs allowing for up to a maximum of twenty four users.

The computers in the Main library are programmed to allow students to search Sabio, the University of Arizona's library information system and OPAC, DIALOG, the Internet, FirstSearch, and the CD ROM databases available on the library Novelle Lan Infoserver. The ELEC in the Science/Engineering library is used mostly for Sabio instruction and database searching on the LAN.

The opening of the classroom coincided with the introduction of SABIO as a "work in progress." Librarians were initially the primary users of the classroom. The ELECs provided a unique opportunity for library staff to learn about the new system and to teach colleagues how to use it for daily operations and routines. While it was very helpful for library staff to have the use of this facility, there was trepidation about how to integrate a hands-on searching experience into regular library instruction.

For several years some classes at the University of Arizona were being introduced to online CD ROM and Knowledge Index searching by observing librarians perform searches via the projection of a live search onto a large screen. The first part of the instruction would review information about the database content, show how to develop a search strategy, identify appropriate terminology, use Boolean logic, describe the keyboard, and review the basic commands of the system. The librarian would perform a search, and, using the LCD panel, explain what she or he was doing as the search was entered. As the computer responses scrolled by on the screen, the instructor explained what was occurring. This experience did give students a conceptual framework for understanding how to develop a search strategy and graphically illustrated how the computer could combine terms and quickly retrieve a limited number of documents matching the search request from a huge number of choices. While we might agree that ultimately it is the search strategy that is responsible for the success or failure of a search, students are frequently so distracted by worrying about learning how to use the keyboard and the different commands for the different systems, all they focus on are these areas. As Jan Kennedy Olsen explains in her article "The Electronic Library and Literacy," published in New Directions for Higher Education. (96) "Students require hands on experience when they are learning systems and software." Without this opportunity they quickly forget and allow computer-phobia to prevent them from using their newly acquired skills.

This point has become most obvious to us in observing our students who search Knowledge Index during an evening and weekend program we call QuickSearch. Before being able to search Knowledge Index, all users must participate in a class in which the previously described instruction has occurred. When users later arrive to conduct their searches, library school students serving as monitors are available for assistance. It has became apparent to us that no matter how superb the instructor or instruction, students required a great deal of assistance in learning how to type in commands and use the system. Much of the material covered in the instruction sessions was not being learned.

The availability of the electronic classroom changed all of this. The first use of ELECs for students coincided with the library's subscribing to FirstSearch. My experiences in developing FirstSearch instruction for history classes and later work with a revised QuickSearch workshop is the basis for the following discussion. I soon learned that there were a number of pedagogical maxims that

do not change from the traditional classroom to a hands-on environment, and there were others that require adjustment and experimentation in technique. Preparation for instruction remains the same; developing clear goals and objectives is crucial. The importance of focusing on the objective cannot be minimized, otherwise there is a tendency to throw a tossed salad's worth of information at the students which leaves them confused and bloated.

It is important to have a clear idea from the faculty on how the library instruction relates to the class assignment. The instruction session should then focus on reinforcing the assignment throughout the instruction. It is rare that one teaches a class in which students do not have a variety of backgrounds and skill levels related to what you are teaching, but the differences become more pronounced in the electronic environment. In the traditional class students will be learning about library materials and library research skills that are generally unfamiliar to most, but when these research tools and methodologies are in a completely new format, a layer of complication is added for those who are computer illiterate or inexperienced with electronic tools. The variations in computer knowledge quickly become apparent when you realize that the types of questions the computer literate students ask may take you far afield and leave the novice in a state of nervousness and uncertainly. One must be careful to build an adequate foundation for all before getting into complex explanations. It is sometimes best to suggest that you will cover the more complicated material later or for the student to see you after.

How do you organize a hands-on computer instruction class?

1. *Focus on one source* - In traditional classes I would cover a number of sources and material types (from indexes, to government documents, and microforms). In the ELECs I concentrate on one source. I have tried to teach FirstSearch and Knowledge Index or Sociofile in one class and have found that this is information overload to the heaviest level. Students cannot sort out the differences in the systems or the commands.

2. *Outline instruction session* - Students are anxious to get their chance to search for information on their topics and so they are not patient about sitting through a lengthy lecture. Review the outline of what will be taught and the sequence of the class so that students will be assured that they will have an opportunity to do their own searching.

3. *Overview of the database or system* - Begin with a brief introduction to the system or database. Before beginning the search students will need to know what they will be searching, the contents and limits of the system or database and how searching this system will help them. I find that using analogies (Nibly) a very effective way of getting them to conceptualize computer databases and systems that are totally beyond

their experience. For example, how to explain what FirstSearch is. I compare FirstSearch to a book store. Not only is it a book store with many books, but there are other bookstores in our computer mall containing their own books which students can access, such as Sabio or Knowledge Index, but we are concentrating on the FirstSearch store. And in that store, we are going to search one particular book called WorldCat. I explain that WorldCat began as a shared cataloging system where libraries would search to find out if anyone else had cataloged a particular book and if so, then order cards for their own catalog based upon the cataloging record input by another library. I won't go on here, but the explanation continues to give the students the idea that in WorldCat they can find out what libraries all over the United States and some foreign countries own. With that explanation I move to the next step, the demonstration.

4. *Demonstration* - Before turning the students' computers on, first demonstrate. Experience has shown that once students get their fingers on the keyboard, they take off. Or at least some do. Some students will begin playing around and searching on their own, while others will not know where the return key is located. During my first few classes I tried to have the students follow with me at their own computers as I conducted a search projected onto a screen. I wanted all to have a clear view of each screen in order to explain what the commands were or what the information on the screen meant. My discussion would be interrupted by students who had pressed the wrong key or who were typing away at their own searches, and the distractions of tying to keep everyone on track proved to be insurmountable. Even faculty had difficulty following instructions and staying together during the demonstration phase. I learned it was more effective to demonstrate the search before allowing students to use the computers. It is difficult to explain items that are on the screen while typing at the keyboard. If possible, have a colleague assist or ask the faculty member and better yet, a student, to volunteer to be the typist.

5. *Student searching* - Before turning the student's terminals on give them clear instructions as to what they need to do once the computer is booted up, these should be written on the board or screen for all to see, and then give instructions on what types of searches they will be performing. Usually students will have a topic of their own choosing to search, based upon their class assignment, but just in case, have some suggestions available. Depending upon the database or system, have them write down what they will be searching. If appropriate, have them develop a search strategy before going online. Give the students a task to accomplish with their search, such as find three books/articles to use for their class assignment. Does the University of Arizona library own this item? If not, who does? (if in FirstSearch).

The assignment will reinforce the relationship of the library experience to the class assignment.

6. *Handouts* - Students should have in hand handouts that review search preparation, describe the databases or system, and list commands.

7. *One-on-one Assistance* - Expect to spend time with one-on-one assistance. Many students will be able to use the computers by themselves, but others will need varying amounts of hand holding. It is best to have the aid of a colleague at this time so that all students who need attention can get it. Walk around the room and observe. It will become readily apparent who will need help and this is a good opportunity to give individual attention. Some students may require so much assistance that it might be best to schedule a separate appointment with them. One wants to be able to give short first aid advice and move on. The opportunity of interacting with students in this environment improves rapport with students and frequently results in students returning for more assistance later.

8. *Review* - At the end of the session review the key points of the instruction session, so that students who have been concentrating on the small pieces can understand how it all relates together and will be useful for their immediate assignment and perhaps others in the future.

9. *Evaluation* - If possible a periodic systematic evaluation of the process is useful for redesign of the sessions and self-improvement by the instructor.

Students and faculty love using the electronic classroom. There is usually a feeling of excitement and a happy buzz of conversation once students begin conducting their own searches. Most leave the sessions excited about their new skills and confident in their ability to use these systems. The only problem we are encountering is that the classrooms are not big enough and are limited to small classes. We will need to go back to our original benefactors, the Parents, and request funding for larger facilities, but for now we believe that our electronic classroom is the most successful vehicle we have for teaching students how to use computer information sources.

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OUTREACH IN ARIZONA: HOW GRATEFUL MED PAVED THE WAY FOR THE ARIZONA HEALTH INFORMATION NETWORK

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In September of 1990 and 1991 the National Library of Medicine (NLM) awarded two GRATEFUL MED/LOANSOME DOC outreach grants to the Arizona Area Health Education Centers (AHECs) and the Arizona Health Sciences Library, both located at the College of Medicine, University of Arizona in Tucson. GRATEFUL MED is a software program developed by NLM which provides access to over twenty databases. The intent of each award was to expose rural health providers, particularly those working with minorities, to GRATEFUL MED and LOANSOME DOC and to facilitate their access to health information. This paper summarizes the GRATEFUL MED outreach projects and links that effort to the development of the Arizona Health Information Network (AZHIN), a not-for-profit consortium of teaching hospitals and health science educational institutions which will provide access to health databases, the Internet and other information and educational products.

In September of 1990 and 1991 the National Library of Medicine (NLM) awarded two GRATEFUL MED/LOANSOME DOC outreach grants to the Arizona Area Health Education Centers (AHECs) and the Arizona Health Sciences Library, both located at the College of Medicine, University of Arizona in Tucson. The intent of each award was to expose rural health providers, particularly those working with minorities, to GRATEFUL MED and LOANSOME DOC and to facilitate their access to health information.

GRATEFUL MED is a software program developed by NLM which provides access to over twenty databases. The program is menu driven, allowing even the most inexperienced computer user the ability to develop a search strategy off-line, call up, connect, and have a search run automatically, with the bibliography downloaded to a PC. While looking at the bibliography, the individual can select those articles that he/she wishes to order and read through an enhancement to the program called LOANSOME DOC. Articles are ordered electronically from participating medical libraries in the state. If an article is not available in-state, the request will be routed to a regional medical library and eventually to the National Library of Medicine. The advantages GRATEFUL MED offers over direct NLM database access or access via a commercial database vendor such as BRS or DIALOG are its menu-driven approach and ease of use, and its low cost--the software sells for $29.95, and the charges for online connect time average $1.25.

Most of the grant money received through the grants was spent on hardware, exhibitors' fees and in-state travel. Originally we used an IBM desktop clone for most of our training sessions, because the groups were small and everyone could cluster around the monitor. We made every attempt possible to overcome "computer fear." Our idea was to use equipment that would be familiar to any group with which we were working and that they would find in their daily work environment. With additional funds in the second grant we were able to buy an LCD panel which helped us to project to larger groups, like our training sessions at the annual Rural Health Conference.

We notified all institutions that had sent letters of support for each grant of the awards, provided additional information about GRATEFUL MED, and listed contact people to set up training sessions. Also, a press release was sent to newsletters of health organizations such as the Arizona Hospital Association. When sessions were scheduled, they would be listed in continuing education newsletters, and other local and regional publications. We were able to offer continuing education units, which are necessary to health professionals to maintain their licenses, through the AHECs. And so it began. Little did we realize what was in store for us.

It is useful to describe a typical training trip and what we experienced in rural Arizona. We would work a normal day and then leave Tucson at 2 p.m. to drive to northeastern Arizona. We arrived in Window Rock about 10 p.m. not knowing for sure if there would be a room for us or not at the only motel in town, even though we had called three times and guaranteed our reservation. Since our training session was scheduled for 8 a.m. the next morning, we would try to arrive an hour before the session to set up and test everything before we would actually begin. This was a unique situation, because the American College of Obstetrics and Gynecology had been at the Indian Health Service Hospital one month before us, but the institution had NOT included its dentists nor pharmacists at that presentation. We were contacted and set up this second

training session to reach those health professionals who had not been included in the first session. As we approached the dental clinic, it was obvious that it was not open. We tried several locked doors and finally a staff member answered. We were told that they were having a staff meeting and wouldn't be seeing patients until later that day. We had to explain that we were part of their staff meeting and then were escorted to a patient room.

Before any session started we did a LOT of troubleshooting: we made sure that the NLM computer access training code was operational, and that the 800 telephone number to connect us to Telenet, Tymnet, or Compuserve, was working. We checked to see if we had to insert a 9 or access code before the phone number in the program to get an outside line. We made sure the phone line was turned on. We discovered that the size of phone jacks is NOT standard. We could not plug in our cord to connect the computer to the phone jack at one site. I scrambled about madly testing every phone jack I could find (luckily we always carry 50 feet of telephone cord) and on my third attempt was able to find a jack into which I could squeeze the cord.

This proved to be a big challenge - offering GRATEFUL MED training in a dental office. We got our equipment set up around the room and members of the staff stood around the dental chair as we went through our presentation. We were unable to get the phones to work here - so we used a demonstration disk that did not actually call up the National Library of Medicine, but simulated the interaction. After the presentation we were ushered to the head dentist's office where there was a dedicated phone line and plenty of room. We installed GRATEFUL MED and LOANSOME DOC and performed several searches on topics of interest to the group and then coached them as they took turns with the computer.

The next morning we drove to a private hospital on the Navajo reservation in Ganado to conduct another GRATEFUL MED/LOANSOME DOC training session. This turned out to be our most diverse group presentation. We had twenty-four members of the hospital staff. They already had GRATEFUL MED loaded on a desktop computer, but when we checked out this windfall, we found that they were operating with an old version of the program, had never been issued the 800 number for rural areas, and so were calling to Flagstaff and paying long distance charges to connect! They were thrilled to learn of the 800 phone number, but we then realized that to use it required an institutional access code to get out and that code, plus the 800 number was too many digits for GRATEFUL MED. We were stymied until the local computer guru, Rip, who can only be described as a hold-over from the 1960's hippie days, showed up, used a text editor, inserted the access code and phone number and we were ready to turn on and login.

We never traveled anywhere without several optional plans in case something went wrong. In this case, one instructor sat at her desktop with four

or five people looking on as we went through our demo. A second instructor used overhead transparencies that showed what people would be seeing on the computer screen. A group of about three people used the laptop to try the system although they were not hooked up to a phone line and could only go to the point of calling up NLM. Finally one participant brought his own laptop and used a demo disk and walked through my presentation with the demo disk with three colleagues looking on. We always stayed after a training session to answer questions, run through searches with people that wanted to try the program or to do searches for them if they were hesitant to touch a computer. We sold copies of the program and distributed passwords and lists of LOANSOME DOC participating libraries in Arizona to get people up and going on the system. Then we had our eight-hour drive home!

During the course of the two grants, fifty-one training sessions were conducted, reaching over 350 health professionals in the state. There were also thirteen exhibits at professional conferences and three community college courses offered in Show Low, Winslow, and Springerville. At the end of the two grants, we had traveled over 11,000 miles and reached fourteen of Arizona's fifteen counties.

Was GRATEFUL MED training a success? Typically after a training session, I would access the GRATEFUL MED Bulletin Board to see who in Arizona is using it, and whether or not any of our new trainees has ventured on it. After this northeastern trip, the doctor with his own laptop was on the GRATEFUL MED Bulletin Board the very next day and spent twenty-four minutes finding out what it had to offer. SUCCESS!

Nearly a year after we had trained the dentists, I received a message from NLM that one of the pre-approved user codes that I had distributed was being used and the billing agreement had not yet been received by the NLM. When I checked, that code belonged to the dentists. That meant they had not done a search for over one year. I wrote them a letter and sent them new forms to set up their billing agreement. Would I call that session a success? If I had to choose between Yes and No, I would have to say "Yes", because they did use the program when they had a need for information even though it took them a year to do so!

The Grateful Med grants provided a means of making health information accessible in even the most remote parts of the state. With only a computer and modem, the world of health information was now available at anyone's fingertips. GRATEFUL MED training continues to be offered in Arizona, but has been drastically curtailed, because funds for travel are severely limited. However, that is not the end of the story when discussing health information in Arizona. Arizona is entering into a new phase by creating a virtual library for health information in the state. The Arizona Health Information Network, or AZHIN, has arrived!

In 1992 the College of Medicine received a National Science Foundation/National Library of Medicine Internet connectivity grant. That established an Internet connection between the College of Medicine in Tucson and the Phoenix campus as well as the five AHECs located throughout the state. A LISTSERV discussion group for the Network has been formed and training manuals are now being developed.

On June 1st of this year a proposal was submitted to the Flinn Foundation to build upon the GRATEFUL MED framework. In July, the Flinn Foundation announced an award of over $306,000 to the Arizona Health Information Network, or AZHIN, a not-for-profit consortium of teaching hospitals and health sciences education institutions. AZHIN will support health sciences education, practice and research via a statewide computer-based network. By dialing an 800 number, health providers from around the state will have access to MEDLINE, CINAHL, the Cumulative Index to Nursing and Allied Health Literature, HEALTH, the hospital administration and planning database, PSYCINFO, the Internet, a c.e./c.m.e. calendar database, a jobline for vacant positions in the state and a database of statistical information about healthcare in Arizona. Initially, this project will be open to the teaching hospitals in Tucson and Phoenix and will be marketed to other health institutions in the state after its formative year. Information services from the consortium will be less expensive to members than similar services they could purchase individually, and benefits of sharing information, communications support and administrative responsibility will be substantial. AZHIN will be operational in early 1994. The consortium expects to add five to ten new institutional members yearly, eventually offering information, communication and education to all hospitals, clinics, health sciences libraries, health sciences educational institutions and individual practitioners in Arizona. The ability of Arizona's health care providers to have current, relevant information at their fingertips for diagnosis and treatment of patients is no longer a dream, but fast becoming a reality.

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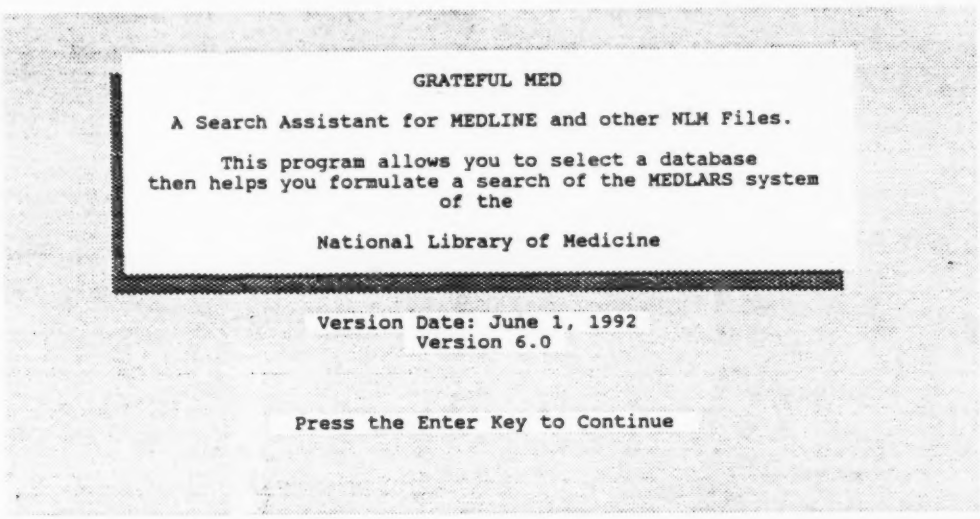
APPENDIX A

GRATEFUL MED, a software program which provides access to databases at the National Library of Medicine.


GRATEFUL MED
A Search Assistant for MEDLINE and other NLM Files.
This program allows you to select a database
then helps you formulate a search of the MEDLARS system
of the
National Library of Medicine
Version Date: June 1, 1992
Version 6.0
Press the Enter Key to Continue

APPENDIX B

GRATEFUL MED provides access to twenty databases at the National Library of Medicine.

SELECT THE DATABASE YOU WISH TO SEARCH.

MEDLINE	Biomedical journals (current and old).
AIDSDRUGS	Description of substances used in AIDS-related trials.
AIDSLINE	References to the recent AIDS literature.
AIDSTRIALS	AIDS-related clinical trials.
ALERT	Clinical Alerts.
AVLINE	Audiovisual materials for health professionals.
BIOETHICS	References to bioethics literature.
CANCERLIT	References to the journal literature in cancer.
CATLINE	Books.
CHEMID	Dictionary of chemical compounds (non-royalty).
CHEMLINE	Dictionary of chemical compounds.
DIRLINE	Directory of organizations.
HEALTH	Administration and planning information.
SDILINE	The most recent month of MEDLINE.
SERLINE	Journals currently indexed.
TOXLINE	References to toxicology information.
TOXLINE65	References to toxicology from 1965 to 1980.
TOXLIT	Toxicology references from royalty files.
TOXLIT65	Toxicology royalty references from 1965 to 1980.
TOXNET	Access to TOXNET databases: HSDB, CCRIS, RTECS, & TRI.

USE THE ARROW KEYS TO HIGHLIGHT YOUR CHOICE AND PRESS ENTER.

APPENDIX C

GRATEFUL MED is menu driven, allowing the individual to develop a search strategy off-line.

```
                              INPUT YOUR SEARCH          (1990-1993)   MEDLINE
 FILL IN ONLY THE LINES YOU NEED FOR YOUR SEARCH.
 PRESS  HOME  FOR HELP;  ESC  TO  RESTART;  F3  TO INCLUDE OLDER MATERIAL.

  AUTHOR NAME

  TITLE WORDS

SUBJECT WORDS

   2ND SUBJECT

   3RD SUBJECT

   4TH SUBJECT

 ENGLISH ONLY

     PUBL TYPE

JOURNAL ABBREV
```

APPENDIX D

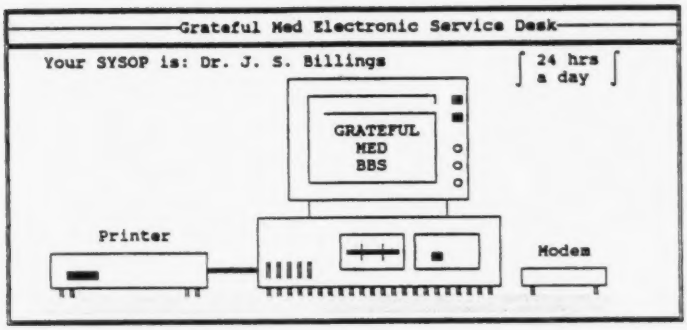
LOANSOME DOC provides a means for ordering articles which the searcher wishes to read.

```
                        LOANSOME DOC ACTIONS

                    1 item selected for order
                (Includes 0 items with "hold" status.)

EDIT        -   Edit order information.
PRINT       -   Print before sending orders.
ORDER       -   Send orders to your library.
DELETE      -   Delete all items.

STATUS      -   Retrieve Loan Status Report.
REVIEW      -   Review the last Loan Status Report.

CONFIGURE   -   Configure LOANSOME DOC.

QUIT        -   Quit the document ordering program.

                                                        <Home=HELP>
      USE THE ARROW KEYS TO HIGHLIGHT YOUR CHOICE AND PRESS ENTER
```


BEST COPY AVAILABLE

APPENDIX E

The GRATEFUL MED Bulletin Board is a convenient way to solve problems and obtain information.




```
Checking user data base for your record -- please standby...


Welcome back -- previous login was 11/30/93

=====================Bulletin Main Menu========================== Updated =======
 5 - The Purpose of the Grateful Med BBS                          11/29/88
10 - How to send a message for information or help                11/29/88
15 - Downloading files using Grateful Med                        12/10/93
16 - Grateful Med distributor (NTIS) has 800 number              03/13/91
25 - How to update your MEDLINE search                           11/24/92
27 - Explanation: USER ID ALREADY IN USE                         02/26/91
30 - NLM Technical Bulletin Grateful Med Columns                 Various
34 - Loansome Doc:  Questions & Answers                          11/19/91
35 - Information for non-Grateful Med users                      09/09/92
40 - Demonstration programs for IBM-PC and Mac!                  09/15/92
41 - CLINICAL ALERT Information                                  02/11/93
42 - CLINICAL ALERT:  HIV patients intolerant of Zidovudine      02/11/93
52 - Online registration/ordering coming to the Bulletin Board   08/26/92
55 - New Backfile configuration affects Grateful Med             12/31/92
_____________________ IBM-PC Version Information ____________________________
61 - Version 6.0 available.                                      06/23/92
63 - Pocket card for Version 6 available                         12/17/92

----------------Macintosh Version Information-----------------------
80 - Grateful Med for the Macintosh, Version 2.0
```

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APPENDIX F

Callers to the GRATEFUL MED Bulletin board can be identified.

First & last name	City, state & zip	Call date-time	Min	Parameters
ROBIN MOORE	BETHESDA, MD 20894	12/10/93 - 07:29	5	9600,N,8-5
ROBIN MOORE	BETHESDA, MD 20894	12/10/93 - 07:13	10	9600,N,8-5
NORMAN HELGESON	DALLAS, TEXAS 75214	12/10/93 - 07:03	1	2400,N,8-7
STEVE WALKER	WARRENSBURG, MO 64093	12/10/93 - 06:23	4	2400,N,8-7
ROBERT CHRISTOPHER	PALM SPRINGS, CA 92262	12/10/93 - 03:07	16	2400,N,8-7
JASWANT SINGH	GREENWOOD, MS 38930	12/10/93 - 02:33	6	2400,N,8-7
TOM GILES	GLENDIVE, MT 59330	12/10/93 - 01:20	24	2400,N,8-8
HUBERT CROOK	JACKSON, MS 39216	12/10/93 - 01:14	6	2400,N,8-7
ROBERT MURPHY D.D.S.	LOS ANGELES, CA 90045	12/10/93 - 00:51	8	2400,N,8-7
DANIEL FRIEDLAND	CHINLE AZ 86503	12/10/93 - 00:52	5	2400,N,8-8
THEODORE BURKE	IOWA CITY, IA 52246	12/10/93 - 00:46	1	1200,N,8-7
CHRIS GALIZIA	MORHEAD NC 28558	12/10/93 - 00:34	4	2400,N,8-8
IRA HINDEN	WOOSTER OH 44691	12/10/93 - 00:31	2	1200,N,8-7
CHRIS MCDADE	BURKEVILLE, VA 23922	12/10/93 - 00:26	4	2400,N,8-8
CARL BIGGS	NIAGARA FALLS ,NY,14304	12/10/93 - 00:11	16	1200,N,8-7
GLEB GLUKHOVSKIY	OVERLAND PARK, KS 66204	12/10/93 - 00:20	3	2400,N,8-8
BRAD DANIELS	NORTH CHARLES, SC 29406	12/10/93 - 00:04	2	2400,N,8-8
LINDA LAZAR	SANTA ROSA, CA 95405	12/9/93 - 23:41	18	2400,N,8-8
LINDA LAZAR	SANTA ROSA, CA 95405	12/9/93 - 23:04	5	2400,N,8-8
STEVE ZAHLLER	SAN DIEGO, CA 92131	12/9/93 - 23:07	21	2400,N,8-7

More (Continue,Nonstop,Quit):

APPENDIX G

Arizona Health Information Network (AZHIN) participants:

Arizona Area Health Education Centers
Arizona Health Sciences Library
Good Samaritan Regional Medical Center
Maricopa Medical Center
Mayo Clinic Scottsdale
St. Joseph's Hospital - Phoenix
Scottsdale Memorial Health Systems
Tucson Medical Center
University of Arizona - College of Medicine - Phoenix
Veterans Administration Medical Center - Phoenix
Veterans Administration Medical Center - Tucson

THROUGH THE CURRICULAR LOOKING GLASS: A DIFFERENT VIEW OF ELECTRONIC RESOURCES

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Electronic resources challenge libraries and librarians on many fronts. Our responses to these challenges, including the development of the concept of information literacy, suggest that librarians regard electronic resources as fundamentally different in nature than traditional print media. This paper describes some of these challenges, examines the concept of information literacy, and argues that libraries treat electronic resources as they do print media with acquisition decisions and use in libraries being curriculum based. This will serve post-secondary education well and help resolve the challenges electronic resources pose.

Recently, I had the privilege of seeing an article which I wrote appear in print. It began as follows: "Modern library technologies have given rise to amazing advances in bibliographic, statistical, and full-text access in academic libraries. The holdings of a college or university library on a certain subject or by a particular author can be conveniently displayed on the screen of an online public access catalog. Telecommunication technology has made it possible to search the online public access catalogs of libraries worldwide. Indexes available in a number of electronic formats can be quickly searched for citations with a precision simply impossible using a print counterpart. Statistical databases can be manipulated for research purposes with a few keystrokes. Finally, philological investigations of, say, an author which formerly involved a lifetime of scholarship can be completed in a matter of seconds with full-text databases." (McConnell, 31)

The article goes on to argue that these technologies are not without problems, their enormous benefits notwithstanding. It suggests that electronic resources create problems when undergraduates use them and argues that a context need be established in which use should occur. Once the context is established, there is a framework in which solutions to these problems can be found. That context, I believe, is the classroom instruction which undergraduates receive from the teaching faculty of their college or university.

In other words, the context is the curriculum. Both the enumeration of the problems engendered by undergraduate use of electronic resources and the details of my solution are articulated in the article itself. Today, I should like to come to the same conclusion but do so for different reasons. The destination will be same; the route there will be different.

Electronic resources challenge libraries and librarians on a number of fronts. For example, they challenge reference departments with questions of staffing, training, and the ergonomic health of work environments. Patron use of OPACs and CD-ROM products has changed the culture of the reference desk. OPACs can be searched with a degree of sophistication simply not possible with their predecessors in print, the old card catalog. The more sophisticated the tool, the more sophisticated the assistance with it need be. Thus, reference departments struggle to strike a balance between staff resources and quality of service.

Training is a pressing challenge. Electronic resources require that reference librarians be expert with more products than perhaps is humanly possible. While it is true that reference librarians were expected to be expert in the use of countless print resources, those print resources remain far more limited in the ways in which they can be "massaged" to extract information. In addition, print indexes, dictionaries, gazetteers, or encyclopedias share a degree of commonality not found in their electronic colleagues. The Philosopher's Index and Religion Index: One differ in their internal arrangement. However, access in print indexes is generally limited to author and subject such that, even if the index is in a language unknown to an individual reference librarian, that reference librarian could generally figure it out. On the other hand, the variety and complexity of the software programs which facilitate access to articles and/or chapters in CD-ROM indexes via the language in which a chapter is written or the journal in which an article appears perhaps demand too much of reference librarians. Theoretically, each product could have a different search protocol. Instead of learning basic characteristics of a type of reference tool, librarians must now learn individual products.

Electronic resources present challenges to the health of librarians and perhaps patrons as well. Carpal Tunnel Syndrome is very much a concern for librarians making daily use of OPACs and CD-ROM workstations in their reference, instruction, and collection development work. Personal computers with their word-processing capabilities are used in the preparation of internal reports and articles. They allow librarians worldwide to communicate with one another using electronic mail and share information via electronic discussion groups and bulletin boards. Concerns have been raised about the damaging, if not carcinogenic, effects of prolonged exposure to computer monitors. In response to these challenges, many libraries have hired consultants to examine work environments and make recommendations for improvement.

Budgetary challenges exist as well. The exploration of electronic resources and the access they provide was once touted as an answer to the escalating cost of books and journals. Library administrations made it clear that traditional collections could not be maintained as they once were. However, it should be abundantly clear today, as perhaps it was even then, that electronic resources are infinitely more expensive than print media. The medium which is a book or a serial does not obsolesce in the same manner, or with the same rapidity, as do hardware and software. Books and serials do fall apart and can become unusable, but short of this, the information they contain can always be accessed. New hardware upgrades are not required; improved software releases are not necessary. These are far more expensive than the acquisition, cataloging, and preservation of a book or serial subscription. The benefit of higher costs are that electronic resources may not demand a patron's physical presence in the library and may allow for more than one user at a time.

Electronic resources challenge acquisition budgets and often receive a generous wedge of the pie. One defense of this state of affairs is the new cliché of access vs. ownership. Electronic resources represent access whereas books and journals account for ownership. As acquisition budgets continue to shrink, so the argument goes, resources ought to be put into access to a vast amount of information instead of the ownership of a small percentage. At first blush, this appears to be a reasonable strategy. But scratching the surface of this argument just a little bit reveals at least two problems.

First, to characterize the issue as "access vs. ownership" suggests an adversarial relationship between the two litigants pleading their case before the bar. This further implies that either the plaintiff or the defendant will win. In other words, it's one or the other. So, some libraries choose access and other choose ownership, a decision usually made in isolation with no consultation with other libraries at the local, regional, or national level. What would be the point of having access to information which nobody owned? Could the few libraries which choose ownership be able to meet the demands of their own patrons as well as those from patrons at libraries which chose access? Perhaps the issues of access and ownership should be viewed as complimentary and a foundation upon which to build cooperation instead of being mutually exclusive of one another.

Second, based upon my experience in providing general reference, access increases demand for ownership. As access becomes easier and more rapid--a few keystrokes in many instances--it's frustrating to users that their ownership of desired information is not necessarily as effortless or quick, demonstrating once again that no gain is achieved without some consequent loss. While telefax technologies and document-delivery services go a long way to shorten the time needed to put desired information into the hands of users, a waiting period of twenty-four hours to some may be regarded as nothing short of an eternity.

While librarians almost universally bemoan shrinking acquisition budgets and the ever-rising cost of books and journals, we seem unconcerned with the future costs of electronic resources. As librarians charge forth into the so-called electronic age, what safeguards are we attempting to build into the future prices of these technologies so that we don't find ourselves held hostage by the producers of these products, given that we presently feel like captives of print publishers?

Why is it that electronic resources are turning librarians and libraries topsy-turvy? Perhaps it is because, as Professor James O'Donnell suggests, we find ourselves "at the turn of an age...The transformation of our ways of knowing by electronic media is well under way and will be a watershed in the history of culture. Those who have studied with some envy earlier transformative movements, like that of the introduction of printing, thinking that to be young in those days was very heaven, should not forget to be grateful that we are alive in days that are, if anything, more exciting." (O'Donnell, 21). Excitement, however, can breed confusion. The yet untapped potential which these technologies possess has created a maelstrom of sorts with librarians caught in the fury. The sense we have offered in preference to the sound is the notion of information literacy. While seemingly cogent, let me now briefly sketch why I believe our response might well be characterized as the first refuge of the bewildered.

Library or bibliographic instruction has been on the scene for quite some time. Librarians have long believed that college students should graduate knowing a little more about the library than simply where the building stands on campus. I share this desire that students become sophisticated users of libraries but I will say that given the choice between a student knowing how to find a book in an online public access catalog and the ability to read it, I would opt for the latter. Sadly, higher education produces too many of the former, or worse, students who can do neither.

To this end, librarians have designed general orientation tours of libraries, courses for credit in the use of academic libraries, and special sessions which introduce students in a particular course to library materials germane both to the needs of the course and to that discipline. We want college graduates to leave the hallowed halls of ivy with some library skills but we've never suggested they leave with a working knowledge of a particular tool. As a reference subject specialist and a bibliographer for philosophy, I have never heard my colleagues in philosophy recommend aloud or in print that philosophy majors graduate acquainted with the Philosopher's Index or Totok's Handbuch der Geschichte der Philosophie. Nor have I seen a similar recommendation for any other academic discipline. Curiously, the advent of electronic resources has changed our position.

The definition of information literacy, according to the American Library Association Presidential Committee on Information Literacy, does not explicitly state that an information-literate person is one who is proficient in the use of electronic resources. But it is clear to me from the Committee's final report that a desire for such proficiency is fueling, at least in part, its recommendations for a restructuring of the learning process. The report begins with the claim that, "information is expanding at an unprecedented rate, and enormously rapid strides are being made in the technology for storing, organizing, and accessing the ever growing tidal wave of information." (ALA, 1) It defines information literacy as follows: "To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." (ALA, 1) Clearly, an individual will not be able to evaluate or effectively use information which he or she is unable to locate and there is no question that more and more information is accessible only through electronic resources.

A restructuring of the learning process to include some sort of proficiency in the use of electronic resources suggests that we view these technologies as fundamentally different from the traditional print sources we have collected for years. We never purchased a gazetteer or began a subscription to a print index with the idea that our graduates would leave with any sort of proficiency in their use and that decision to purchase was always made with the interest of the curriculum or support of faculty and graduate-student research in mind. What, then, should be the criterion or criteria for purchase of new and existing electronic resources?

Achieving such information literacy is not an ambitious goal; it's an absurd one. I consider myself a decently educated person. I hope my academic training in librarianship and my professional experience as a librarian suffice to number me among the information literate. I hope I know when I need information for some problem I might encounter. But why should I be expected to know where to locate it, how to evaluate it, and then use it effectively? Let's suppose I have a legal problem of some sort. What I need is an attorney, not a library. I could find statutes or court opinions relevant to my situation but the critical issues are the interpretation of my circumstance vis-à-vis the law (evaluate) and the best course of action to take in order to resolve the dispute (effective use). Only an attorney can do that. This is why we have attorneys and accountants, priests and plumbers. No amount of restructuring of the educational process or proficiency in the use of electronic resources will change that.

Even though I believe the notion of information-literate people is nonsense, we do need educated people. I realize that defining what it means to be educated can be a slippery task but let me give you my two-cents' worth on the subject. Those of us who had the privilege of being educated in something akin to the classical tradition in this torturously anti-classical age dutifully read Plato

and Aristotle. Although we scarcely knew it at the time, we were not reading these thinkers because the texts were old, originally written in Greek, and called classics. Nor were they read simply because so much of philosophy, literary theory, logic, Christianity, concepts of political arrangement, natural sciences, and our Western culture finds its origin there. They were read as an exercise to teach us how to read an author. We learned to identify the assumptions upon which an author makes his or her case, critically examine those assumptions, and to identify possible future contingencies which adherence to a particular position might demand. We were taught to think and unpack an argument, instead of being filled with opinions. The dreaded papers we wrote in those courses were an attempt on our part to identify our assumptions, why we held them, what possible future contingencies they might demand, and to skillfully and clearly articulate them, hopefully in good English, in five to eight pages.

This training would serve me well as I meet with my attorney to discuss my legal problem. I would be able to cogently articulate my circumstance, ask questions as my attorney explains and interprets the law vis-à-vis my particular situation, and, when a course of action has been recommended, speculate on future contingencies other than those suggested.

A classical education can include electronic resources. But their use needs to occur in concert with classroom instruction. A full-text database of English poetry will be of no use to a student who doesn't know the difference between meter and a sonnet. Nor will the exchange rates for currencies available from the International Monetary Fund via the Internet help a student with no knowledge of the principles of macroeconomics. Our collection decisions regarding electronic resources should be curriculum driven as were our collection decisions for print media. This will require closer cooperation with our teaching faculties than has been the case heretofore given the varied avenues of access which electronic resources provide and the potential such access has for changing our ways of knowing.

I don't want to suggest that viewing electronic resources through the curricular looking glass will immediately resolve all the challenges I mentioned earlier. But I can't help believing that our job at and our questions of staffing and training for the reference desk would be easier if we were helping students prepared to use electronic resources.

Change cannot be stopped nor can it be ignored. To the extent it is possible, let's try to harness change to meet our goals. In other words, let's not let the tail of electronic resources wag the dog of our curriculum and the library which supports it. The selection and use of electronic resources should support a curriculum which strives to graduate students who are educated. Let's certainly not panic in the face of the unknown and rush to make claims of restructuring the learning process in order to achieve the impossible.

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